



**Cheri Peifer**  
Sr. Environmental Specialist  
Environmental Programs

300 Exelon Way  
Kennett Square, PA 19348

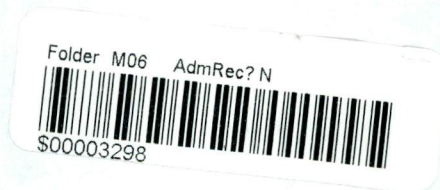
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**FedEx Tracking Number: 7752 6292 1118**

December 21, 2015

U.S. Environmental Protection Agency  
Region III (3WC22)  
1650 Arch Street  
Philadelphia, PA 19103-2029

Attn: Mr. Khai Dao



Subject: Chem-Clear, Inc. Facility, Chester, PA  
RCRA §3008(h) Corrective Action Consent Order  
U.S. EPA Docket No.: RCRA-3-064CA

Dear Khai:

In accordance with the above referenced final consent order, Section G(24), we are submitting four (4) copies of the bimonthly progress report for the reporting period of October 1, 2015 through November 30, 2015. If you have any questions or require additional information, please feel free to contact me at 610-765-5773 or via e-mail at [cheri.peifer@exeloncorp.com](mailto:cheri.peifer@exeloncorp.com).

Sincerely,

A handwritten signature in black ink, appearing to read "Cheri A. Peifer".

Cheri A. Peifer  
Sr. Environmental Specialist  
Environmental Programs

Enclosure

cc: Sara Pantelidou, P.G., PADEP  
FedEx Tracking Number: 7752 6292 1118



# **Bi-Monthly Progress Report for the Exelon Generation (Formerly PECO) RCRA Corrective Action Project**

**Chem Clear Inc. Facility, Chester, Pennsylvania**

**Reporting Period: October 1, 2015 through November 30, 2015**

## **Status of Plan/Report Preparation**

The RCRA Facility Investigation (RFI) Phase III Report was approved by the USEPA on June 25, 1999. The Corrective Measure Study (CMS) requirement of the Consent Order is being fulfilled through the Pennsylvania Act 2 process for the broader Chester Waterfront Redevelopment Project Site, of which the Chem Clear Site is included. The Chester Waterfront Remedial Investigation/Risk Assessment/Remedial Alternatives Assessment (RI/RA/RAA) Report was submitted to the USEPA on March 23, 2000 and to PADEP on June 13, 2000. PADEP approved the RI/RA/RAA in their letter dated September 11, 2000. A Groundwater Monitoring Plan was submitted to USEPA in October 2002, which was later approved, that includes collecting/evaluating two years of groundwater quality data from the Chem Clear Site. The final Quarterly Monitoring Report associated with that Groundwater Monitoring Plan was submitted to PADEP and USEPA in October 2005. In a letter dated March 22, 2001, USEPA approved the RI/RA/RAA Report as the equivalent of the CMS Final Report. The Act 2 Final Report for the Chester Waterfront Site was submitted to PADEP in December 2003 and approved via their April 29, 2004 letter.

## **Status of Activities**

### **Interim Measures - Bio-Slurping System**

The Groundwater Interceptor/Collection Trench (ICT) was brought on-line October 24, 2003 to complement the existing angled extraction well system.

The ICT and extraction wells operated normally during the reporting period. The resulting average run-time efficiency throughout the period was 82% in October 2015 and 74% in November 2015.

### **Interim Measures - Passive Recovery System**

Periodic inspection and routine monitoring of monitoring wells MW-9, MW-13 and MW-14 were conducted during the reporting period. The inspections include observing fluid levels in the wells. If any product was detected, the product was removed using a bailer. These activities are designed to gather information to optimize and adjust the system as necessary. No product was observed in either monitoring well during the current reporting period.

## **Summary of Findings**

### **Interim Measures - Bio-Slurping and ICT System**

The IM bio slurping and ICT system began operation on September 4, 1997. No product was recovered during October and November 2015. The volume of product recovered from the IM Bio slurping and ICT system to date, 10,594.09 gallons, is shown in Table 1. The product volume includes product recovered from the oil/water separator. Water recovered by the oil skimmer with the NAPL is decanted from the product recovery drums back into the oil/water separator on a daily basis.

### **Interim Measures - Passive Recovery**

MW-1 and MW-14 were routinely monitored during the entire reporting period for the presence of product. As stated in previous reports, monitoring well MW-6, and the passive recovery system con-



tained within, was destroyed by Preferred Real Estate contractors on or about September 7, 2004. The volume of product recovered from the passive recovery system, 250.57 gallons, is shown in Table 1.

### Interim Measures - Recovered Product

Table 1 summarizes product recovery to date. The product recovered by Clean Ventures is mixed with water, making the volume of product difficult to quantify. The volume of water/product mixture is reported in the Status of Activities section above. The volume of product recovered from the oil/water separator during the reporting period is reported in the Product Recovery table below.

Table 1. Product Recovery Totals		
Source	Product Recovered during Period (gal.)	Cumulative Product Recovered (gal.)
Bio-Slurping System	6.88	10,594.09
Passive Recovery (MW-1 and MW-14)	0	250.57
Total	6.88	10,844.66

*Monitoring well MW-6 was destroyed in September 2004 and is no longer part of passive product recovery efforts.*

### Summary of Changes Made

A temporary effluent treatment system was installed and started on September 28, 2009. The system was winterized in January 2010 and continues to operate.

A berm was constructed around the treatment area by Sweeney Construction, a contractor for the Buccini Pollin Group (BPG), the site owner/developer in late April 2011. The berm is intended to divert stormwater from the parking lot away from the treatment area.

The temporary effluent treatment system was taken offline on November 9, 2015 and was replaced with a new permanent effluent treatment system, which began operation on November 30, 2015.

### Summary of Contacts Made with Community/Regulatory Agencies

- Regular contact maintained with the Buccini Pollin Group (BPG), the site owner/developer, and their consultant Weston Solutions, Inc. regarding overall site redevelopment.
- The facility is currently operated in accordance with Wastewater Discharge Permit No. 1DE 01-06 for Exelon Generation effective January 1, 2015 through December 31, 2018.

### Summary of Actual/Potential Problems

- None during this period

### Actions Taken to Rectify Problems

- The bag filters were changed daily unless indicated otherwise, which resulted in improved system runtime in October 2015 and November 2015.

### Personnel Changes

- None during this period.

### Projected Work for the Next Reporting Period

- Clean Ventures will perform product removal as necessary.
- Site personnel will ensure proper startup of the new, permanent effluent treatment system, which is anticipated to improve system runtime efficiency.



- Seep observations will continue to be made during each site visit. Routine inspections of MW-14 and MW-1 will continue. Similar inspections of additional site monitoring wells (MW-13 and MW-9) will continue during the next reporting period.
- Routine observations of the ICT will be conducted in order to monitor performance of the ICT as well as its effect on overall system performance.
- Observations of river for sheen presence.
- Monitor site development activities and potential impacts on remediation system performance including the presence of sheen on the Delaware River.

### **Copies of Reports/Data**

Table 1 summarizes groundwater data collected during this reporting period for Interim Measures, including water level measurements and seep inspection records. Table 2 is a record of daily readings made by the site operator regarding the groundwater treatment system.



Table 1. Groundwater and Shoreline Monitoring Data														
Date	Time	Tide Level	Flow Rate	Seep 1a	Seep 1b	Seep 2	Seep 3a	Seep 3b	Seep 4	Sewer	River	Other	T1	T2
10/1	14:30	H	44	N	N	N	N	N	N	N	N	N	10.80	10.70
10/2	12:00	M	49	N	N	N	N	N	N	N	N	N	9.13	9.29
10/3	12:25	H	40	N	N	N	N	N	N	N	N	N	10.10	10.67
10/4	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
10/5	16:00	L	50	N	N	N	N	N	N	N	N	N	9.81	9.98
10/6	7:30	M	49	N	N	N	N	N	N	N	N	N	9.12	9.43
10/7	16:30	H	49	N	N	N	N	N	N	N	N	N	8.61	9.08
10/8	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
10/9	16:00	M	50	N	N	N	N	N	N	N	N	N	9.29	9.47
10/10	9:00	H	50	N	N	N	N	N	N	N	N	N	9.00	9.28
10/11	9:30	H	49	N	N	N	N	N	N	N	N	N	9.03	9.31
10/12	17:00	L	49	N	N	N	N	N	N	N	N	N	9.19	9.28
10/13	11:30	H	45	N	N	N	N	N	N	N	N	N	8.76	8.81
10/14	12:30	M	47	N	N	N	N	N	N	N	N	N	8.66	8.79
10/15	14:00	M	45	N	N	N	N	N	N	N	N	N	8.67	8.80
10/16	13:00	M	45	N	N	N	N	N	N	N	N	N	8.79	8.92
10/17	9:00	L	46	N	N	N	N	N	N	N	N	N	8.99	9.16
10/18	10:30	L	44	N	N	N	N	N	N	N	N	N	9.03	9.25
10/19	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
10/20	16:00	L	45	N	N	N	N	N	N	N	N	N	8.07	8.43
10/21	14:45	H	37	N	N	N	N	N	N	N	N	N	8.11	9.00
10/22	16:00	L	39	N	N	N	N	N	N	N	N	N	8.97	8.99
10/23	14:00	L	41	N	N	N	N	N	N	N	N	N	9.12	9.36
10/24	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
10/25	9:30	M	40	N	N	N	N	N	N	N	N	N	8.90	9.11
10/26	13:30	M	35	N	N	N	N	N	N	N	N	N	8.00	8.80
10/27	15:30	M	27	N	N	N	N	N	N	N	N	N	9.10	9.45
10/28	14:45	M	25	N	N	N	N	N	N	N	N	N	9.00	9.30
10/29	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
10/30	14:30	L	48	N	N	N	N	N	N	N	N	N	9.02	9.14
10/31	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
11/1	8:30	M	44	N	N	N	N	N	N	N	N	N	8.00	8.91
11/2	14:40	M	20	N	N	N	N	N	N	N	N	N	8.70	8.60
11/3	15:00	M	39	N	N	N	N	N	N	N	N	N	9.60	9.69
11/4	14:20	M	37	N	N	N	N	N	N	N	N	N	10.30	10.40
11/5	16:00	L	42	N	N	N	N	N	N	N	N	N	9.75	9.81
11/6	16:00	L	NM	N	N	N	N	N	N	N	N	N	8.91	9.02
11/7	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
11/8	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
11/9	10:00	L	40	N	N	N	N	N	N	N	N	N	8.21	8.44
11/10	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
11/11	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
11/12	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
11/13	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM



Table 1. Groundwater and Shoreline Monitoring Data

Date	Time	Tide Level	Flow Rate	Seep 1a	Seep 1b	Seep 2	Seep 3a	Seep 3b	Seep 4	Sewer	River	Other	T1	T2
11/14	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
11/15	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
11/16	12:00	M	NM	N	N	N	N	N	N	N	N	N	7.77	7.84
11/17	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
11/18	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
11/19	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
11/20	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
11/21	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
11/22	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
11/23	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
11/24	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
11/25	14:30	L	NM	N	N	N	N	N	N	N	N	N	7.49	7.50
11/26	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
11/27	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
11/28	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
11/29	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
11/30	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM

General Notes (Applicable for Table 1 and Table 2):

1. Background and riverbank piezometers (G-2A, G-2C, G-3A, G-7B, G-7C, G-8, G-9B, G-10, G-13, G-16, and G-19) were decommissioned in December 2002.
2. The interceptor/collection trench was brought online on October 23, 2003.
3. Flow rate is the pretreatment system discharge flow rate to sewer in gallons per minute (gpm).
4. Seep areas along shoreline were covered by rip-rap as of January 17, 2003. Sheen observations, when observed, are adjacent to seep areas along river or sand flats.
5. Water depth measurements in collection trench manholes T1 and T2 are from the top of the manhole casing in feet (ft). Reference elevations: T1 = 6.99 ft, msl and T2 = 7.09 ft, msl.
6. Manhole T1 was raised 2 feet on January 14, 2008. Manhole T2 was raised 1 foot on January 15, 2008. Product level measurements are in inches from top of manhole to product.
7. NM = No measurement.
8. For tide level measurement column, 'L' indicates low tide, 'M' indicates medium tide, and 'H' indicates high tide.
9. T1 and T2 measurements taken after trenches have been pumped out (i.e. at the end of the operator's shift).



Table 2. Groundwater Remediation System Monitoring Data

Date	Time	Run Time Meter (hours)	Elapsed Time (hours)	Totalizer Reading (gallons)	Discharge Flow (gallons)	Discharge Flow (gpm)	Notes	Product Level (ft. in drum)	KO Tank Vac. (in. Hg.)	Tide Level	Seep Obs.	Product Level (gallons in drum)
10/1	14:30	5,077	23	3,362,363	5,954	44	Changed bags, ran trench, took daily readings	2.5	18	H	N	52
10/2	12:00	5,099	22	3,368,317	5,720	49	Changed bags, ran trench, backwashed the lag carbon vessel, took daily readings	2.5	17	M	N	52
10/3	12:25	5,112	13	3,374,037	249	40	-	-	18	H	N	-
10/4	-	-	-	-	249	-	-	-	-	-	-	-
10/5	16:00	5,124	12	3,374,534	2,425	50	Changed bags, ran trench, took daily readings	2.5	19	L	N	52
10/6	7:30	5,131	7	3,376,959	3,260	49	Changed bags, ran trench, took daily readings	2.5	18	M	N	52
10/7	16:30	5,149	18	3,380,219	8,555	49	Changed bags, ran trench, took daily readings	2.5	18	H	N	52
10/8	-	-	-	-	8,555	-	-	-	-	-	-	-
10/9	16:00	5,174	25	3,397,329	1,765	50	Backwashed the lead and lag carbon vessels, changed bags, ran trench, took daily readings, changed oil in the vacuum pump.	2.0	18	M	N	42
10/10	9:00	5,192	18	3,399,094	4,707	50	Changed bags, ran trench, took daily readings	2.5	19	H	N	52
10/11	9:30	5,216	24	3,403,801	7,509	49	Changed bags, ran trench, took daily readings	2.5	19	H	N	52
10/12	17:00	5,247	31	3,411,310	3,240	49	Changed bags, ran trench, took daily readings	2.5	19	L	N	52
10/13	11:30	5,264	17	3,414,550	3,974	45	Changed bags, ran trench, took daily readings	2.5	19	H	N	52
10/14	12:30	5,291	27	3,418,524	3,920	47	Changed bags, collected the monthly sample, ran trench, backwashed the lead carbon vessel, took daily readings	2.5	18	M	N	52
10/15	14:00	5,315	24	3,422,444	4,155	45	Changed bags, ran trench, took daily readings	2.5	18	M	N	52
10/16	13:00	5,339	24	3,426,599	894	45	Changed bags, ran trench, took daily readings	2.5	18	M	N	52
10/17	9:00	5,358	19	3,427,493	4,013	46	Changed bags, ran trench, took daily readings	2.5	17	L	N	52
10/18	10:30	5,384	26	3,431,506	7,016	44	Changed bags, ran trench, took daily readings	2.5	17	L	N	52
10/19	-	-	-	-	7,016	-	-	-	-	-	-	-
10/20	16:00	5,436	52	3,445,537	5,966	45	Changed bags, ran trench, took daily readings	2.5	18	L	N	52
10/21	14:45	5,459	23	3,451,503	5,288	37	Changed bags, ran trench, took daily readings	2.5	18	H	N	52
10/22	16:00	5,483	24	3,456,791	3,749	39	Changed bags, ran trench, took daily readings	2.5	19	L	N	52
10/23	14:00	5,506	23	3,460,540	1,854	41	Changed bags, ran trench, backwashed the lead carbon vessel, took daily readings	2.5	19	L	N	52
10/24	-	-	-	-	1,854	-	-	-	-	-	-	-
10/25	9:30	5,550	44	3,464,247	6,319	40	Changed bags, ran trench, took daily readings	2.5	17	M	N	52
10/26	13:30	5,578	28	3,470,566	6,707	35	Ran trench, changed bags, took daily readings	2.5	18	M	N	52
10/27	15:30	5,602	24	3,477,273	5,358	27	Ran trench, changed bags, took daily readings	2.5	18	M	N	52
10/28	14:45	5,625	23	3,482,631	2,107	25	Ran trench, changed bags, took daily readings	2.5	18	M	N	52
10/29	-	-	-	-	2,107	-	-	-	-	-	-	-
10/30	14:30	5,639	14	3,486,845	1,175	48	Changed bags, ran trench, backwashed the lead and lag carbon vessels, took daily readings	2.5	18	L	N	52
10/31	-	-	-	-	1,175	-	-	-	-	-	-	-
11/1	8:30	5,665	26	3,489,194	7,492	44	Changed bags, ran trench, took daily readings	2.5	20	M	N	52
11/2	14:40	5,692	27	3,496,686	8,633	20	Changed bags, ran trench, took daily readings	2.0	20	M	N	41
11/3	15:00	5,712	20	3,505,319	9,732	39	Ran trench, changed bags, took daily readings	2.0	17	M	N	41
11/4	14:20	5,736	24	3,515,051	5,520	37	-	-	18	M	N	-
11/5	16:00	5,761	-	3,520,571	2,148	42	Changed bags, ran trench, took daily readings	2.5	18	L	N	52
11/6	16:00	5,788	52	3,522,719	-	-	Backwashed the lead and lag carbon vessels, prepped the temporary system for removal on 11/9 when construction for the new system begins, took daily readings	2.2	-	L	N	45
11/7	-	-	-	-	-	-	System offline	-	-	-	-	-

Date	Time	Run Time Meter (hours)	Elapsed Time (hours)	Totalizer Reading (gallons)	Discharge Flow (gallons)	Discharge Flow (gpm)	Notes	Product Level (ft. in drum)	KO Tank Vac. (in. Hg.)	Tide Level	Seep Obs.	Product Level (gallons in drum)
11/8	-	-	-	-	-	-	System offline	-	-	-	-	-
11/9	10:00	5,790	2	3,523,141	422	40	Collected the monthly sample; temporary system offline for construction/installation of permanent treatment system	2.2	-	L	N	45
11/10	-	-	-	-	-	-	Temporary system offline for construction/installation of permanent treatment system	2.2	-	-	-	45
11/11	-	-	-	-	-	-	Temporary system offline for construction/installation of permanent treatment system	2.2	-	-	-	45
11/12	-	-	-	-	-	-	Temporary system offline for construction/installation of permanent treatment system	2.2	-	-	-	45
11/13	-	-	-	-	-	-	Temporary system offline for construction/installation of permanent treatment system	2.2	-	-	-	45
11/14	-	-	-	-	-	-	Temporary system offline for construction/installation of permanent treatment system	-	-	-	-	-
11/15	-	-	-	-	-	-	Temporary system offline for construction/installation of permanent treatment system	-	-	-	-	-
11/16	12:00	-	-	3,523,141	-	-	Temporary system offline for construction/installation of permanent treatment system	2.2	-	M	N	45
11/17	-	-	-	-	-	-	Temporary system offline for construction/installation of permanent treatment system	2.2	-	-	-	45
11/18	-	-	-	-	-	-	Temporary system offline for construction/installation of permanent treatment system	2.2	-	-	-	45
11/19	-	-	-	-	-	-	Temporary system offline for construction/installation of permanent treatment system	2.2	-	-	-	45
11/20	-	-	-	-	-	-	Temporary system offline for construction/installation of permanent treatment system	2.2	-	-	-	45
11/21	-	-	-	-	-	-	Temporary system offline for construction/installation of permanent treatment system	-	-	-	-	-
11/22	-	-	-	-	-	-	Temporary system offline for construction/installation of permanent treatment system	-	-	-	-	-
11/23	-	-	-	-	-	-	Temporary system offline for construction/installation of permanent treatment system	2.2	-	-	-	45
11/24	-	-	-	-	-	-	Temporary system offline for construction/installation of permanent treatment system	2.2	-	-	-	45
11/25	14:30	-	-	-	-	-	Temporary system offline for construction/installation of permanent treatment system	2.2	-	L	N	45
11/26	-	-	-	-	-	-	Temporary system offline for construction/installation of permanent treatment system	-	-	-	-	-
11/27	-	-	-	-	-	-	Temporary system offline for construction/installation of permanent treatment system	-	-	-	-	-
11/28	-	-	-	-	-	-	Temporary system offline for construction/installation of permanent treatment system	-	-	-	-	-
11/29	-	-	-	-	-	-	Temporary system offline for construction/installation of permanent treatment system	-	-	-	-	-
11/30	-	-	-	-	1,947	-	New system began operation without hour meter (to be installed in early December).	-	-	-	-	-





**Cheri Peifer**  
Sr. Environmental Specialist  
Environmental Programs

300 Exelon Way  
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**FedEx Tracking Number: 7748 3283 9320**

October 27, 2015

U.S. Environmental Protection Agency  
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1650 Arch Street  
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Attn: Mr. Khai Dao

Subject: Chem-Clear, Inc. Facility, Chester, PA  
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Dear Khai:

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Sincerely,

A handwritten signature in black ink, appearing to read "Cheri Peifer", written over a horizontal line.

Cheri A. Peifer  
Sr. Environmental Specialist  
Environmental Programs

Enclosure

cc: Sara Pantelidou, P.G., PADEP  
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# Bi-Monthly Progress Report for the Exelon Generation (Formerly PECO) RCRA Corrective Action Project

Chem Clear Inc. Facility, Chester, Pennsylvania

Reporting Period: August 1, 2015 through September 30, 2015

## Status of Plan/Report Preparation

The RCRA Facility Investigation (RFI) Phase III Report was approved by the USEPA on June 25, 1999. The Corrective Measure Study (CMS) requirement of the Consent Order is being fulfilled through the Pennsylvania Act 2 process for the broader Chester Waterfront Redevelopment Project Site, of which the Chem Clear Site is included. The Chester Waterfront Remedial Investigation/Risk Assessment/Remedial Alternatives Assessment (RI/RA/RAA) Report was submitted to the USEPA on March 23, 2000 and to PADEP on June 13, 2000. PADEP approved the RI/RA/RAA in their letter dated September 11, 2000. A Groundwater Monitoring Plan was submitted to USEPA in October 2002, which was later approved, that includes collecting/evaluating two years of groundwater quality data from the Chem Clear Site. The final Quarterly Monitoring Report associated with that Groundwater Monitoring Plan was submitted to PADEP and USEPA in October 2005. In a letter dated March 22, 2001, USEPA approved the RI/RA/RAA Report as the equivalent of the CMS Final Report. The Act 2 Final Report for the Chester Waterfront Site was submitted to PADEP in December 2003 and approved via their April 29, 2004 letter.

## Status of Activities

### Interim Measures - Bio-Slurping System

The Groundwater Interceptor/Collection Trench (ICT) was brought on-line October 24, 2003 to complement the existing angled extraction well system.

The ICT and extraction wells operated normally during the reporting period. The resulting average run-time efficiency throughout the period was 98% in August 2015 and 94% in September 2015.

### Interim Measures - Passive Recovery System

Periodic inspection and routine monitoring of monitoring wells MW-9, MW-13 and MW-14 were conducted during the reporting period. The inspections include observing fluid levels in the wells. If any product was detected, the product was removed using a bailer. These activities are designed to gather information to optimize and adjust the system as necessary. No product was observed in either monitoring well during the current reporting period.

## Summary of Findings

### Interim Measures - Bio-Slurping and ICT System

The IM bio slurping and ICT system began operation on September 4, 1997. The volume of product recovered from the IM Bio slurping and ICT system, 10,594.09 gallons, is shown in Table 1. The product volume includes product recovered from the oil/water separator. Water recovered by the oil skimmer with the NAPL is decanted from the product recovery drums back into the oil/water separator on a daily basis.

### Interim Measures - Passive Recovery

MW-1 and MW-14 were routinely monitored during the entire reporting period for the presence of product. As stated in previous reports, monitoring well MW-6, and the passive recovery system con-



tained within, was destroyed by Preferred Real Estate contractors on or about September 7, 2004. The volume of product recovered from the passive recovery system, 250.57 gallons, is shown in Table 1.

### Interim Measures - Recovered Product

Table 1 summarizes product recovery to date. The product recovered by Clean Ventures is mixed with water, making the volume of product difficult to quantify. The volume of water/product mixture is reported in the Status of Activities section above. The volume of product recovered from the oil/water separator during the reporting period is reported in the Product Recovery table below.

Table 1. Product Recovery Totals		
Source	Product Recovered during Period (gal.)	Cumulative Product Recovered (gal.)
Bio-Slurping System	6.88	10,594.09
Passive Recovery (MW-1 and MW-14)	0	250.57
Total	6.88	10,844.66

Monitoring well MW-6 was destroyed in September 2004 and is no longer part of passive product recovery efforts.

### Summary of Changes Made

A temporary effluent treatment system was installed and started on September 28, 2009. The system was winterized in January 2010 and continues to operate.

A berm was constructed around the treatment area by Sweeney Construction, a contractor for the Buccini Pollin Group (BPG), the site owner/developer in late April 2011. The berm is intended to divert stormwater from the parking lot away from the treatment area.

### Summary of Contacts Made with Community/Regulatory Agencies

- Regular contact maintained with the Buccini Pollin Group (BPG), the site owner/developer, and their consultant Weston Solutions, Inc. regarding overall site redevelopment.
- The facility is currently operated in accordance with Wastewater Discharge Permit No. 1DE 01-06 for Exelon Generation effective January 1, 2015 through December 31, 2018.

### Summary of Actual/Potential Problems

- None during this period

### Actions Taken to Rectify Problems

- The bag filters were changed daily unless indicated otherwise, which resulted in improved system runtime in August 2015 and September 2015.

### Personnel Changes

- None during this period.

### Projected Work for the Next Reporting Period

- Clean Ventures will perform product removal as necessary.
- Site personnel will continue to explore ways of improving system runtime efficiency due to clogging bag filters, as necessary.
- Seep observations will continue to be made during each site visit. Routine inspections of MW-14 and MW-1 will continue. Similar inspections of additional site monitoring wells (MW-13 and MW-9) will continue during the next reporting period.



- Routine observations of the ICT will be conducted in order to monitor performance of the ICT as well as its effect on overall system performance.
- Observations of river for sheen presence.
- Monitor site development activities and potential impacts on remediation system performance including the presence of sheen on the Delaware River.
- An upgraded GAC treatment system, which will replace the current temporary GAC treatment system on-site, is scheduled to be installed in November 2015.

### **Copies of Reports/Data**

Table 1 summarizes groundwater data collected during this reporting period for Interim Measures, including water level measurements and seep inspection records. Table 2 is a record of daily readings made by the site operator regarding the groundwater treatment system.

Table 1. Groundwater and Shoreline Monitoring Data														
Date	Time	Tide Level	Flow Rate	Seep 1a	Seep 1b	Seep 2	Seep 3a	Seep 3b	Seep 4	Sewer	River	Other	T1	T2
8/1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8/2	14:30	L	50	N	N	N	N	N	N	N	N	N	8.86	8.98
8/3	17:30	L	49	N	N	N	N	N	N	N	N	N	8.98	9.11
8/4	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8/5	9:00	M	45	N	N	N	N	N	N	N	N	N	8.71	8.84
8/6	14:00	L	49	N	N	N	N	N	N	N	N	N	9.01	9.23
8/7	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8/8	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8/9	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8/10	14:30	M	45	N	N	N	N	N	N	N	N	N	9.74	9.98
8/11	15:00	M	47	N	N	N	N	N	N	N	N	N	10.07	10.28
8/12	14:30	M	48	N	N	N	N	N	N	N	N	N	10.01	10.26
8/13	10:00	M	48	N	N	N	N	N	N	N	N	N	9.97	9.94
8/14	15:45	M	47	N	N	N	N	N	N	N	N	N	10.19	10.32
8/15	9:00	M	47	N	N	N	N	N	N	N	N	N	10.08	10.14
8/16	9:30	L	48	N	N	N	N	N	N	N	N	N	10.26	10.40
8/17	11:00	M	48	N	N	N	N	N	N	N	N	N	9.57	9.74
8/18	14:00	M	45	N	N	N	N	N	N	N	N	N	9.37	9.49
8/19	15:00	L	39	N	N	N	N	N	N	N	N	N	9.82	9.99
8/20	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8/21	14:30	L	43	N	N	N	N	N	N	N	N	N	9.23	9.35
8/22	8:30	M	43	N	N	N	N	N	N	N	N	N	9.09	9.18
8/23	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8/24	14:00	M	43	N	N	N	N	N	N	N	N	N	9.07	9.19
8/25	14:30	M	43	N	N	N	N	N	N	N	N	N	9.00	9.14
8/26	16:00	L	41	N	N	N	N	N	N	N	N	N	9.18	9.29
8/27	-	-	-	-	-	-	-	-	-	-	-	-	-	-
8/28	14:15	L	49	N	N	N	N	N	N	N	N	N	10.02	10.31
8/29	9:00	M	50	N	N	N	N	N	N	N	N	N	9.86	10.09
8/30	10:00	M	50	N	N	N	N	N	N	N	N	N	9.78	10.16
8/31	15:00	H	47	N	N	N	N	N	N	N	N	N	10.14	10.37
9/1	15:00	M	48	N	N	N	N	N	N	N	N	N	10.29	10.47
9/2	14:30	L	36	N	N	N	N	N	N	N	N	N	10.19	10.83
9/3	16:00	M	33	N	N	N	N	N	N	N	N	N	9.99	10.01
9/4	16:00	L	38	N	N	N	N	N	N	N	N	N	10.12	10.29
9/5	9:00	H	43	N	N	N	N	N	N	N	N	N	9.66	10.02
9/6	9:00	H	40	N	N	N	N	N	N	N	N	N	9.57	9.83
9/7	9:30	H	41	N	N	N	N	N	N	N	N	N	9.63	9.91
9/8	15:30	H	40	N	N	N	N	N	N	N	N	N	9.57	9.71
9/9	13:30	M	48	N	N	N	N	N	N	N	N	N	9.62	9.78
9/10	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9/11	18:00	L	37	N	N	N	N	N	N	N	N	N	8.61	8.78
9/12	-	-	-	N	N	N	N	N	N	N	N	N	-	-
9/13	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Table 1. Groundwater and Shoreline Monitoring Data														
Date	Time	Tide Level	Flow Rate	Seep 1a	Seep 1b	Seep 2	Seep 3a	Seep 3b	Seep 4	Sewer	River	Other	T1	T2
9/14	17:00	L	37	N	N	N	N	N	N	N	N	N	8.11	8.23
9/15	14:30	M	31	N	N	N	N	N	N	N	N	N	8.02	8.19
9/16	14:00	L	46	N	N	N	N	N	N	N	N	N	9.12	9.36
9/17	-	-	-	-	-	-	-	-	-	-	-	-	-	-
9/18	14:30	L	45	N	N	N	N	N	N	N	N	N	9.34	9.61
9/19	9:00	M	48	N	N	N	N	N	N	N	N	N	8.79	9.02
9/20	9:30	M	46	N	N	N	N	N	N	N	N	N	8.86	9.11
9/21	18:30	L	45	N	N	N	N	N	N	N	N	N	8.92	9.26
9/22	15:00	L	41	N	N	N	N	N	N	N	N	N	8.74	8.96
9/23	16:30	L	49	N	N	N	N	N	N	N	N	N	9.19	9.37
9/24	14:30	M	50	N	N	N	N	N	N	N	N	N	9.35	9.73
9/25	15:30	M	47	N	N	N	N	N	N	N	N	N	9.91	10.19
9/26	7:00	M	50	N	N	N	N	N	N	N	N	N	9.82	10.11
9/27	9:00	H	44	N	N	N	N	N	N	N	N	N	9.69	10.01
9/28	14:30	L	40	N	N	N	N	N	N	N	N	N	9.07	9.49
9/29	14:30	H	40	N	N	N	N	N	N	N	N	N	11.78	11.90
9/30	15:30	H	45	N	N	N	N	N	N	N	N	N	10.99	11.11

General Notes (Applicable for Table 1 and Table 2):

1. Background and riverbank piezometers (G-2A, G-2C, G-3A, G-7B, G-7C, G-8, G-9B, G-10, G-13, G-16, and G-19) were decommissioned in December 2002.
2. The interceptor/collection trench was brought online on October 23, 2003.
3. Flow rate is the pretreatment system discharge flow rate to sewer in gallons per minute (gpm).
4. Seep areas along shoreline were covered by drip-rap as of January 17, 2003. Seep observations, when observed, are adjacent to seep areas along river or sand flats.
5. Water depth measurements in collection trench manholes T1 and T2 are from the top of the manhole casing in feet (ft). Reference elevations: T1 = 6.99 ft, msl and T2 = 7.09 ft, msl.
6. Manhole T1 was raised 2 feet on January 14, 2008. Manhole T2 was raised 1 foot on January 15, 2008. Product level measurements are in inches from top of manhole to product.
7. NM = No measurement.
8. For tide level measurement column, 'L' indicates low tide, 'M' indicates medium tide, and 'H' indicates high tide.
9. T1 and T2 measurements taken after trenches have been pumped out (i.e. at the end of the operator's shift).

Table 2. Groundwater Remediation System Monitoring Data

Date	Time	Run Time Meter (hours)	Elapsed Time (hours)	Totalizer Reading (gallons)	Discharge Flow (gallons)	Discharge Flow (gpm)	Notes	Product Level (ft. in drum)	KO Tank Vac. (in. Hg.)	Tide Level	Seep Obs.	Product Level (gallons in drum)
8/1	-	-	-	-	-	-	-	-	-	-	-	-
8/2	14:30	3,710	15	3,065,224	4,341	50	Changed bags, ran trench, took daily readings	3.333	16	L	N	68.80
8/3	17:30	3,737	27	3,071,869	6,645	49	Changed bags, ran trench, took daily readings	3.333	16	L	N	68.80
8/4	-	-	-	-	-	-	-	3.333	-	-	-	68.80
8/5	9:00	3,776	39	3,080,320	8,451	45	Changed bags, ran trench, took daily readings	3.333	16	M	N	68.80
8/6	14:00	3,805	29	3,089,514	9,194	49	Backwashed the lead and lag carbon vessels, changed bags, ran trench, took daily readings	3.333	16	L	N	68.80
8/7	-	-	-	-	-	-	-	-	-	-	-	-
8/8	-	-	-	-	-	-	-	-	-	-	-	-
8/9	-	-	-	-	-	-	-	-	-	-	-	-
8/10	14:30	3,897	92	3,112,907	23,393	45	Changed bags, ran trench, took daily readings	3.333	16	M	N	68.80
8/11	15:00	3,921	24	3,125,919	13,012	47	Changed bags, ran trench, took daily readings	3.333	16	M	N	68.80
8/12	14:30	3,944	23	3,131,267	5,348	48	Backwashed the lead and lag carbon vessels, changed bags, ran trench, took daily readings	3.333	17	M	N	68.80
8/13	10:00	3,964	20	3,134,557	3,290	48	Collected the monthly sample, changed bags, ran trench, took daily readings	3.333	16	M	N	68.80
8/14	15:45	3,994	30	3,139,566	5,009	47	Changed bags, ran trench, took daily readings	3.333	16	M	N	68.80
8/15	9:00	4,011	17	3,142,091	2,525	47	Changed bags, ran trench, took daily readings	3.417	17	M	N	70.52
8/16	9:30	4,035	24	3,144,683	2,592	48	Backwashed the lead and lag carbon vessels, changed bags, ran trench, took daily readings	3.417	16	L	N	70.52
8/17	11:00	4,061	26	3,152,744	8,061	48	Changed bags, ran trench, took daily readings	3.417	16	M	N	70.52
8/18	14:00	4,087	26	3,155,841	3,097	45	Changed bags, ran trench, took daily readings	3.417	16	M	N	70.52
8/19	15:00	4,113	26	3,161,060	5,219	39	Changed bags, ran trench, took daily readings	3.417	16	L	N	70.52
8/20	-	-	-	-	-	-	-	-	-	-	-	-
8/21	14:30	4,160	47	3,166,905	5,845	43	Backwashed the lead and lag carbon vessels, changed bags, ran trench, took daily readings	3.417	16	L	N	70.52
8/22	8:30	4,178	18	3,168,631	1,726	43	Changed bags, ran trench, took daily readings	3.417	17	M	N	70.52
8/23	-	-	-	-	-	-	-	3.417	-	-	-	70.52
8/24	14:00	4,231	53	3,180,911	12,280	43	Changed bags, ran trench, took daily readings	3.417	16	M	N	70.52
8/25	14:30	4,255	24	3,185,731	4,820	43	Changed bags, ran trench, took daily readings	3.417	16	M	N	70.52
8/26	16:00	4,282	27	3,188,783	3,052	41	Changed bags, ran trench, took daily readings	3.417	17	L	N	70.52
8/27	-	-	-	-	-	-	-	-	-	-	-	-
8/28	14:15	4,328	46	3,198,946	10,163	49	Backwashed the lead and lag carbon vessels, changed bags, ran trench, took daily readings	3.417	15	L	N	70.52
8/29	9:00	4,347	19	3,200,981	2,015	50	Changed bags, ran trench, took daily readings	3.417	16	M	N	70.52
8/30	10:00	4,372	25	3,207,211	6,250	50	Changed bags, ran trench, took daily readings	3.500	16	M	N	72.24
8/31	15:00	4,400	28	3,215,500	8,289	47	Changed bags, ran trench, took daily readings	3.500	16	H	N	72.24
9/1	15:00	4,424	24	3,223,337	7,837	48	Changed bags, ran trench, took daily readings	3.500	16	M	N	72.24
9/2	14:30	4,447	23	3,227,285	3,948	36	Changed bags, ran trench, took daily readings	3.500	18	L	N	72.24
9/3	16:00	4,472	25	3,231,021	3,736	33	Changed bags, ran trench, took daily readings	3.500	17	M	N	72.24
9/4	16:00	4,495	23	3,234,629	3,608	38	Changed bags, ran trench, took daily readings	3.500	18	L	N	72.24
9/5	9:00	4,514	19	3,237,251	2,622	43	Backwashed the lead and lag carbon vessels, changed bags, ran trench, took daily readings	3.583	17	H	N	73.96
9/6	9:00	4,538	24	3,240,483	3,232	40	Changed bags, ran trench, took daily readings	3.583	17	H	N	73.96
9/7	9:30	4,562	24	3,245,107	4,624	41	Changed bags, ran trench, took daily readings	3.583	16	H	N	73.96
9/8	15:30	4,591	29	3,252,571	7,464	40	Collected the monthly sample, changed bags, ran trench, took daily readings	3.583	18	H	N	73.96



Table 2. Groundwater Remediation System Monitoring Data

Date	Time	Run Time Meter (hours)	Elapsed Time (hours)	Totalizer Reading (gallons)	Discharge Flow (gallons)	Discharge Flow (gpm)	Notes	Product Level (ft. in drum)	KO Tank Vac. (in. Hg.)	Tide Level	Seep Obs.	Product Level (gallons in drum)
9/9	13:30	4,613	22	3,255,280	2,709	48	Backwashed the lead and lag carbon vessels, changed bags, ran trench, took daily readings	3.583	17	M	N	73.96
9/10	-	-	-	-	-	-	-	-	-	-	-	-
9/11	18:00	4,655	42	3,260,595	5,315	37	Changed bags, ran trench, took daily readings	3.583	17	L	N	73.96
9/12	-	-	-	-	-	-	-	-	-	-	-	-
9/13	-	-	-	-	-	-	-	-	-	-	-	-
9/14	17:00	4,682	27	3,264,869	4,274	37	Changed bags, ran trench, took daily readings	3.583	16	L	N	73.96
9/15	14:30	4,704	22	3,268,713	3,844	31	Changed bags, ran trench, took daily readings	3.583	17	M	N	73.96
9/16	14:00	4,728	24	3,274,271	5,558	46	Backwashed the lead and lag carbon vessels, changed bags, ran trench, took daily readings	3.583	16	L	N	73.96
9/17	-	-	-	-	-	-	-	-	-	-	-	-
9/18	14:30	4,776	48	3,282,245	7,974	45	Changed bags, ran trench, took daily readings	3.583	16	L	N	73.96
9/19	9:00	4,795	19	3,283,109	864	48	Changed bags, ran trench, took daily readings	3.667	17	M	N	75.68
9/20	9:30	4,819	24	3,286,513	3,404	46	Changed bags, ran trench, took daily readings	3.667	18	M	N	75.68
9/21	18:30	4,851	32	3,293,167	6,654	45	Changed bags, ran trench, took daily readings	3.667	15	L	N	75.68
9/22	15:00	4,872	21	3,296,202	3,035	41	Changed bags, ran trench, took daily readings	3.667	15	L	N	75.68
9/23	16:30	4,898	26	3,302,192	5,990	49	Backwashed the lead and lag carbon vessels, changed bags, ran trench, took daily readings	3.667	15	L	N	75.68
9/24	14:30	4,918	20	3,313,220	11,028	50	Changed bags, ran trench, took daily readings	3.667	19	M	N	75.68
9/25	15:30	4,943	25	3,322,185	8,965	47	Changed bags, ran trench, took daily readings	3.667	18	M	N	75.68
9/26	7:00	4,959	16	3,323,969	1,784	50	Backwashed the lead and lag carbon vessels, changed bags, ran trench, took daily readings	3.667	19	M	N	75.68
9/27	9:00	4,983	24	3,327,099	3,130	44	Changed bags, ran trench, took daily readings	3.667	18	H	N	75.68
9/28	14:30	5,010	27	3,337,501	10,402	40	Changed bags, ran trench, took daily readings	3.667	18	L	N	75.68
9/29	14:30	5,034	24	3,351,914	14,413	40	Changed bags, ran trench, took daily readings	3.667	18	H	N	75.68
9/30	15:30	5,054	20	3,356,703	4,789	45	Backwashed the lead and lag carbon vessels, changed bags, ran trench, took daily readings	3.667	18	H	N	75.68



**Cheri Peifer**  
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**FedEx Tracking Number: 7743 6084 3102**

August 25, 2015

U.S. Environmental Protection Agency  
Region III (3WC22)  
1650 Arch Street  
Philadelphia, PA 19103-2029

Attn: Mr. Khai Dao

Subject: Chem-Clear, Inc. Facility, Chester, PA  
RCRA §3008(h) Corrective Action Consent Order  
U.S. EPA Docket No.: RCRA-3-064CA

Dear Khai:

In accordance with the above referenced final consent order, Section G(24), we are submitting four (4) copies of the bimonthly progress report for the reporting period of June 1, 2015 through July 31, 2015. If you have any questions or require additional information, please feel free to contact me at 610-765-5773 or via e-mail at [cheri.peifer@exeloncorp.com](mailto:cheri.peifer@exeloncorp.com).

Sincerely,

A handwritten signature in black ink, appearing to read "Cheri Peifer", written over a horizontal line.

Cheri A. Peifer  
Sr. Environmental Specialist  
Environmental Programs

Enclosure

cc: Sara Pantelidou, P.G., PADEP  
FedEx Tracking Number: 7743 6089 0152



# **Bi-Monthly Progress Report for the Exelon Power (Formerly PECO) RCRA Corrective Action Project**

**Chem Clear Inc. Facility, Chester, Pennsylvania**

**Reporting Period: June 1, 2015 through July 31, 2015**

## **Status of Plan/Report Preparation**

The RCRA Facility Investigation (RFI) Phase III Report was approved by the USEPA on June 25, 1999. The Corrective Measure Study (CMS) requirement of the Consent Order is being fulfilled through the Pennsylvania Act 2 process for the broader Chester Waterfront Redevelopment Project Site, of which the Chem Clear Site is included. The Chester Waterfront Remedial Investigation/Risk Assessment/Remedial Alternatives Assessment (RI/RA/RAA) Report was submitted to the USEPA on March 23, 2000 and to PADEP on June 13, 2000. PADEP approved the RI/RA/RAA in their letter dated September 11, 2000. A Groundwater Monitoring Plan was submitted to USEPA in October 2002, which was later approved, that includes collecting/evaluating two years of groundwater quality data from the Chem Clear Site. The final Quarterly Monitoring Report associated with that Groundwater Monitoring Plan was submitted to PADEP and USEPA in October 2005. In a letter dated March 22, 2001, USEPA approved the RI/RA/RAA Report as the equivalent of the CMS Final Report. The Act 2 Final Report for the Chester Waterfront Site was submitted to PADEP in December 2003 and approved via their April 29, 2004 letter.

## **Status of Activities**

### **Interim Measures - Bio-Slurping System**

The Groundwater Interceptor/Collection Trench (ICT) was brought on-line October 24, 2003 to complement the existing angled extraction well system.

The ICT and extraction wells operated normally during the reporting period. The resulting average run-time efficiency throughout the period was 75% in June 2015 and 90% in July 2015.

### **Interim Measures - Passive Recovery System**

Periodic inspection and routine monitoring of monitoring wells MW-9, MW-13 and MW-14 were conducted during the reporting period. The inspections include observing fluid levels in the wells. If any product was detected, the product was removed using a bailer. These activities are designed to gather information to optimize and adjust the system as necessary. No product was observed in either monitoring well during the current reporting period.

## **Summary of Findings**

### **Interim Measures - Bio-Slurping and ICT System**

The IM bio slurping and ICT system began operation on September 4, 1997. The volume of product recovered from the IM Bio slurping and ICT system, 10,587.21 gallons, is shown in Table 1. The product volume includes product recovered from the oil/water separator. Water recovered by the oil skimmer with the NAPL is decanted from the product recovery drums back into the oil/water separator on a daily basis.

### **Interim Measures - Passive Recovery**

MW-1 and MW-14 were routinely monitored during the entire reporting period for the presence of product. As stated in previous reports, monitoring well MW-6, and the passive recovery system con-



tained within, was destroyed by Preferred Real Estate contractors on or about September 7, 2004. The volume of product recovered from the passive recovery system, 250.57 gallons, is shown in Table 1.

### Interim Measures - Recovered Product

Table 1 summarizes product recovery to date. The product recovered by Clean Ventures is mixed with water, making the volume of product difficult to quantify. The volume of water/product mixture is reported in the Status of Activities section above. The volume of product recovered from the oil/water separator during the reporting period is reported in the Product Recovery table below.

**Table 1. Product Recovery Totals**

Source	Product Recovered during Period (gal.)	Cumulative Product Recovered (gal.)
Bio-Slurping System	10.33	10,587.21
Passive Recovery (MW-1 and MW-14)	0	250.57
Total	10.33	10,837.78

*Monitoring well MW-6 was destroyed in September 2004 and is no longer part of passive product recovery efforts.*

### Summary of Changes Made

A temporary effluent treatment system was installed and started on September 28, 2009. The system was winterized in January 2010 and continues to operate.

A berm was constructed around the treatment area by Sweeney Construction, a contractor for the Buccini Pollin Group (BPG), the site owner/developer in late April 2011. The berm is intended to divert stormwater from the parking lot away from the treatment area.

### Summary of Contacts Made with Community/Regulatory Agencies

- Regular contact maintained with the Buccini Pollin Group (BPG), the site owner/developer, and their consultant Weston Solutions, Inc. regarding overall site redevelopment.
- The facility is currently operated in accordance with Wastewater Discharge Permit No. 1DE 01-06 for Exelon Power effective January 1, 2015 through December 31, 2018.

### Summary of Actual/Potential Problems

- Runtime efficiency in previous months had decreased due to shutdowns caused by fouling of the bag filters.
- Sheen was observed on July 9, 2015 at the combined sewer overflow (CSO).

### Actions Taken to Rectify Problems

- The bag filters were changed daily unless indicated otherwise, which resulted in improved system runtime in June 2015 and July 2015.
- On July 9, 2015, the operator attempted to locate the source of the sheen; however, the source of the sheen was undetermined. An absorbent boom was used to absorb the sheen and no further presence of sheen was observed throughout the duration of the month.

### Personnel Changes

- None during this period.

### Projected Work for the Next Reporting Period

- Clean Ventures will perform product removal as necessary.



- Site personnel will continue to explore ways of improving system runtime efficiency due to clogging bag filters, as necessary.
- Seep observations will continue to be made during each site visit. Routine inspections of MW-14 and MW-1 will continue. Similar inspections of additional site monitoring wells (MW-13 and MW-9) will continue during the next reporting period.
- Routine observations of the ICT will be conducted in order to monitor performance of the ICT as well as its effect on overall system performance.
- Observations of river for sheen presence.
- Monitor site development activities and potential impacts on remediation system performance including the presence of sheen on the Delaware River.

### Copies of Reports/Data

Table 1 summarizes groundwater data collected during this reporting period for Interim Measures, including water level measurements and seep inspection records. Table 2 is a record of daily readings made by the site operator regarding the groundwater treatment system.



Table 1. Groundwater and Shoreline Monitoring Data

Date	Time	Tide Level	Flow Rate	Seep 1a	Seep 1b	Seep 2	Seep 3a	Seep 3b	Seep 4	Sewer	River	Other	T1	T2
6/1	13:00	H	45	N	N	N	N	N	N	N	N	N	10.61	10.87
6/2	14:30	M	43	N	N	N	N	N	N	N	N	N	10.12	10.49
6/3	16:30	H	43	N	N	N	N	N	N	N	N	N	10.09	NM
6/4	9:00	M	44	N	N	N	N	N	N	N	N	N	9.86	NM
6/5	14:00	L	50	N	N	N	N	N	N	N	N	N	10.36	10.89
6/6	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6/7	10:00	M	50	N	N	N	N	N	N	N	N	N	10.09	10.58
6/8	13:30	L	45	N	N	N	N	N	N	N	N	N	9.61	9.77
6/9	8:00	L	48	N	N	N	N	N	N	N	N	N	9.99	10.14
6/10	17:00	L	49	N	N	N	N	N	N	N	N	N	9.92	10.06
6/11	15:00	M	46	N	N	N	N	N	N	N	N	N	9.60	9.70
6/12	15:00	L	45	N	N	N	N	N	N	N	N	N	10.12	10.29
6/13	9:30	L	45	N	N	N	N	N	N	N	N	N	10.38	10.52
6/14	10:00	L	44	N	N	N	N	N	N	N	N	N	10.43	10.59
6/15	14:30	L	40	N	N	N	N	N	N	N	N	N	10.09	10.30
6/16	15:30	H	45	N	N	N	N	N	N	N	N	N	10.98	11.01
6/17	15:00	H	50	N	N	N	N	N	N	N	N	N	11.74	11.91
6/18	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6/19	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6/20	8:00	M	47	N	N	N	N	N	N	N	N	N	11.58	11.69
6/21	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6/22	15:30	L	48	N	N	N	N	N	N	N	N	N	10.71	10.90
6/23	14:30	L	47	N	N	N	N	N	N	N	N	N	10.99	11.27
6/24	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6/25	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6/26	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6/27	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6/28	-	-	-	-	-	-	-	-	-	-	-	-	-	-
6/29	16:00	L	45	N	N	N	N	N	N	N	N	N	9.16	9.31
6/30	14:00	H	40	N	N	N	N	N	N	N	N	N	9.93	10.18
7/1	14:30	L	40	N	N	N	N	N	N	N	N	N	9.98	10.19
7/2	14:30	L	45	N	N	N	N	N	N	N	N	N	9.74	9.89
7/3	8:30	L	44	N	N	N	N	N	N	N	N	N	9.88	10.08
7/4	9:30	M	44	N	N	N	N	N	N	N	N	N	9.76	9.89
7/5	15:00	H	42	N	N	N	N	N	N	N	N	N	9.39	9.66
7/6	15:00	L	40	N	N	N	N	N	N	N	N	N	9.47	9.84
7/7	13:00	L	35	N	N	N	N	N	N	N	N	N	9.81	9.99
7/8	16:00	L	46	N	N	N	N	N	N	N	N	N	10.19	10.36
7/9	13:30	M	50	N	N	N	N	N	N	N	N	N	10.22	10.41
7/10	14:00	M	50	N	N	N	N	N	N	N	N	N	10.03	10.26
7/11	8:00	H	49	N	N	N	N	N	N	N	N	N	9.79	10.03
7/12	9:00	M	51	N	N	N	N	N	N	N	N	N	9.64	10.11
7/13	13:00	M	47	N	N	N	N	N	N	N	N	N	10.04	10.28
7/14	14:30	M	48	N	N	N	N	N	N	N	N	N	10.21	10.54



Date	Time	Tide Level	Flow Rate	Seep 1a	Seep 1b	Seep 2	Seep 3a	Seep 3b	Seep 4	Sewer	River	Other	T1	T2
7/15	16:00	M	49	N	N	N	N	N	N	N	N	N	NM	9.24
7/16	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7/17	16:00	M	48	N	N	N	N	N	N	N	N	N	9.81	9.93
7/18	10:00	M	49	N	N	N	N	N	N	N	N	N	9.68	9.81
7/19	19:00	H	48	N	N	N	N	N	N	N	N	N	8.90	9.33
7/20	18:00	M	49	N	N	N	N	N	N	N	N	N	8.63	9.41
7/21	16:00	M	47	N	N	N	N	N	N	N	N	N	8.81	9.64
7/22	16:00	L	47	-	-	-	-	-	-	-	-	-	8.94	9.88
7/23	14:00	M	45	N	N	N	N	N	N	N	N	N	9.28	9.79
7/24	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7/25	9:30	H	45	N	N	N	N	N	N	N	N	N	8.91	9.34
7/26	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7/27	18:30	L	40	N	N	N	N	N	N	N	N	N	8.17	8.75
7/28	15:00	M	40	N	N	N	N	N	N	N	N	N	9.01	9.49
7/29	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7/30	-	-	-	-	-	-	-	-	-	-	-	-	-	-
7/31	14:30	L	50	N	N	N	N	N	N	N	N	N	9.19	9.27

General Notes (Applicable for Table 1 and Table 2):

1. Background and riverbank piezometers (G-2A, G-2C, G-3A, G-7B, G-7C, G-8, G-9B, G-10, G-13, G-16, and G-19) were decommissioned in December 2002.
2. The Interceptor/collection trench was brought online on October 23, 2003.
3. Flow rate is the pretreatment system discharge flow rate to sewer in gallons per minute (gpm).
4. Seep areas along shoreline were covered by rip-rap as of January 17, 2003. Sheen observations, when observed, are adjacent to seep areas along river or sand flats.
5. Water depth measurements in collection trench manholes T1 and T2 are from the top of the manhole casing in feet (ft). Reference elevations: T1 = 6.99 ft, msl and T2 = 7.09 ft, msl.
6. Manhole T1 was raised 2 feet on January 14, 2008. Manhole T2 was raised 1 foot on January 15, 2008. Product level measurements are in inches from top of manhole to product.
7. NM = No measurement.
8. For tide level measurement column, 'L' indicates low tide, 'M' indicates medium tide, and 'H' indicates high tide.
9. T1 and T2 measurements taken after trenches have been pumped out (i.e. at the end of the operator's shift).

Table 2. Groundwater Remediation System Monitoring Data

Date	Time	Run Time Meter (hours)	Elapsed Time (hours)	Totalizer Reading (gallons)	Discharge Flow (gallons)	Discharge Flow (gpm)	Notes	Product Level (ft. in drum)	KO Tank Vac. (in. Hg.)	Tide Level	Seep Obs.	Product Level (gallons in drum)
6/1	13:00	2,641	35	2,834,571	5,522	45	Changed bags, ran trench, took daily readings	2.833	19	H	N	58.52
6/2	14:30	2,649	8	2,834,996	425	43	Changed bags, ran trench, took daily readings	2.833	18	M	N	58.52
6/3	16:30	2,673	24	2,840,488	5,492	43	Changed bags, ran trench, took daily readings	2.833	18	H	N	58.52
6/4	9:00	2,689	16	2,842,709	2,221	44	Changed bags, ran trench, took daily readings	2.833	18	M	N	58.52
6/5	14:00	2,714	25	2,847,442	4,733	50	Backwashed the lead and lag carbon vessels, changed bags, ran trench, took daily readings	2.833	19	L	N	58.52
6/6	-	-	-	-	-	-	-	-	-	-	-	-
6/7	10:00	2,744	30	2,847,493	51	50	Changed bags, ran trench, took daily readings	2.833	20	M	N	58.52
6/8	13:30	2,770	26	2,849,411	1,918	45	Changed bags, ran trench, took daily readings	2.833	18	L	N	58.52
6/9	8:00	2,784	14	2,854,491	5,080	48	Changed bags, ran trench, took daily readings	2.833	18	L	N	58.52
6/10	17:00	2,814	30	2,856,139	1,648	49	Backwashed the lead and lag carbon vessels, changed bags, ran trench, took daily readings	2.833	18	L	N	58.52
6/11	15:00	2,835	21	2,859,535	3,396	46	Changed bags, ran trench, took daily readings	2.833	20	M	N	58.52
6/12	15:00	2,859	24	2,859,707	172	45	Changed bags, ran trench, took daily readings	2.833	19	L	N	58.52
6/13	9:30	2,878	19	2,859,708	1	45	Changed bags, ran trench, took daily readings	3.000	20	L	N	61.96
6/14	10:00	2,902	24	2,861,924	2,216	44	Changed bags, ran trench, took daily readings	3.167	20	L	N	65.41
6/15	14:30	2,930	28	2,862,041	117	40	Changed bags, ran trench, took daily readings, collected monthly sample	3.167	20	L	N	65.41
6/16	15:30	2,936	6	2,877,114	15,073	45	Changed bags, ran trench, took daily readings	3.167	18	H	N	65.41
6/17	15:00	2,960	24	2,883,641	6,527	50	Backwashed the lead and lag carbon vessels, changed bags, ran trench, took daily readings	3.167	18	H	N	65.41
6/18	-	-	-	-	-	-	-	-	-	-	-	-
6/19	-	-	-	-	-	-	-	-	-	-	-	-
6/20	8:00	2,996	36	2,884,693	1,052	47	Changed bags, ran trench, took daily readings	3.167	20	M	N	65.41
6/21	-	-	-	-	-	-	-	0.000	-	-	-	-
6/22	15:30	3,042	46	2,896,731	12,038	48	Changed bags, ran trench, took daily readings	3.167	19	L	N	65.41
6/23	14:30	3,064	22	2,905,873	9,142	47	Changed bags, ran trench, took daily readings	3.167	19	L	N	65.41
6/24	-	-	-	-	-	-	-	-	-	-	-	-
6/25	-	-	-	-	-	-	-	-	-	-	-	-
6/26	-	-	-	-	-	-	-	-	-	-	-	-
6/27	-	-	-	-	-	-	-	-	-	-	-	-
6/28	-	-	-	-	-	-	-	-	-	-	-	-
6/29	16:00	3,069	5	2,906,638	765	45	Changed bags, ran trench, took daily readings	3.167	18	L	N	65.41
6/30	14:00	3,078	9	2,908,174	1,536	40	Changed bags, ran trench, took daily readings	3.167	19	H	N	65.41
7/1	14:30	3,092	14	2,911,258	3,084	40	Changed bags, ran trench, took daily readings	3.167	18	L	N	65.41
7/2	14:30	3,114	22	2,919,148	7,890	45	Backwashed the lead and lag carbon vessels, changed bags, ran trench, took daily readings, collected monthly sample	3.167	18	L	N	65.41
7/3	8:30	3,134	20	2,921,086	1,938	44	Changed bags, ran trench, took daily readings	3.167	18	L	N	65.41
7/4	9:30	3,158	24	2,927,213	6,127	44	Changed bags, ran trench, took daily readings	3.167	19	M	N	65.41
7/5	15:00	3,182	24	2,930,188	2,975	42	Changed bags, ran trench, took daily readings	3.167	20	H	N	65.41
7/6	15:00	3,206	24	2,935,481	5,293	40	Changed bags, ran trench, took daily readings	3.167	19	L	N	65.41
7/7	13:00	3,216	10	2,939,678	4,197	35	Changed bags, ran trench, took daily readings	3.167	19	L	N	65.41
7/8	16:00	3,240	24	2,945,847	6,169	46	Backwashed the lead and lag carbon vessels, changed bags, ran trench, took daily readings	3.167	19	L	N	65.41



Date	Time	Run Time Meter (hours)	Elapsed Time (hours)	Totalizer Reading (gallons)	Discharge Flow (gallons)	Discharge Flow (gpm)	Notes	Product Level (ft. in drum)	KO Tank Vac. (in. Hg.)	Tide Level	Seep Obs.	Product Level (gallons in drum)
7/9	13:30	3,262	22	2,955,521	9,674	50	Changed bags, ran trench, took daily readings	3.167	16	M	Y	65.41
7/10	14:00	3,284	22	2,961,037	5,516	50	Changed bags, ran trench, took daily readings	3.250	15	M	N	67.13
7/11	8:00	3,302	18	2,962,055	1,018	49	Changed bags, ran trench, took daily readings	3.250	15	H	N	67.13
7/12	9:00	3,322	20	2,964,690	2,635	51	Backwashed the lead and lag carbon vessels, changed bags, ran trench, took daily readings	3.250	17	M	N	67.13
7/13	13:00	3,349	27	2,974,281	9,591	47	Changed bags, ran trench, took daily readings	3.250	16	M	N	67.13
7/14	14:30	3,375	26	2,984,874	10,593	46	Changed bags, ran trench, took daily readings	3.250	16	M	N	67.13
7/15	16:00	3,399	24	2,995,765	10,891	49	Backwashed the lead and lag carbon vessels, changed bags, ran trench, took daily readings	3.250	17	M	N	67.13
7/16	-	-	-	-	-	-	-	-	-	-	-	-
7/17	16:00	3,427	28	2,999,322	3,557	48	Changed bags, ran trench, took daily readings	3.250	18	M	N	67.13
7/18	10:00	3,466	39	3,002,166	2,844	49	Changed bags, ran trench, took daily readings	3.333	18	M	N	68.85
7/19	19:00	3,477	11	3,009,967	7,801	48	Changed bags, ran trench, took daily readings	3.333	18	H	N	68.85
7/20	18:00	3,499	22	3,013,286	3,319	49	Backwashed the lead and lag carbon vessels, changed bags, ran trench, took daily readings	3.333	18	M	N	68.85
7/21	16:00	3,521	22	3,016,763	3,477	47	Changed bags, ran trench, took daily readings	3.333	19	M	N	68.85
7/22	16:00	3,546	25	3,021,299	4,536	47	Changed bags, ran trench, took daily readings	3.333	18	L	N	68.85
7/23	14:00	3,569	23	3,027,041	5,742	45	Changed bags, ran trench, took daily readings	3.333	17	M	N	68.85
7/24	-	-	-	-	-	-	-	-	-	-	-	-
7/25	9:30	3,597	28	3,028,138	1,097	45	Changed bags, ran trench, took daily readings	3.333	17	H	N	68.85
7/26	-	-	-	-	-	-	-	-	-	-	-	-
7/27	18:30	3,649	52	3,032,414	4,276	40	Changed bags, ran trench, took daily readings	3.333	17	L	N	68.85
7/28	15:00	3,673	24	3,052,911	20,497	40	Changed bags, ran trench, took daily readings	3.333	16	M	N	68.85
7/29	-	-	-	-	-	-	-	-	-	-	-	-
7/30	-	-	-	-	-	-	-	-	-	-	-	-
7/31	14:30	3,695	22	3,060,883	7,972	50	Backwashed the lead and lag carbon vessels, changed bags, ran trench, took daily readings	3.333	16	L	N	68.85



**Cheri Peifer**  
Sr. Environmental Specialist  
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**FedEx Tracking Number: 7739 1738 9486**

June 25, 2015

U.S. Environmental Protection Agency  
Region III (3WC22)  
1650 Arch Street  
Philadelphia, PA 19103-2029

Attn: Mr. Khai Dao

Subject: Chem-Clear, Inc. Facility, Chester, PA  
RCRA §3008(h) Corrective Action Consent Order  
U.S. EPA Docket No.: RCRA-3-064CA

Dear Khai:

In accordance with the above referenced final consent order, Section G(24), we are submitting four (4) copies of the bimonthly progress report for the reporting period of April 1, 2015 through May 31, 2015. If you have any questions or require additional information, please feel free to contact me at 610-765-5773 or via e-mail at [cheri.peifer@exeloncorp.com](mailto:cheri.peifer@exeloncorp.com).

Sincerely,

A handwritten signature in black ink, appearing to read "Cheri A. Peifer", written in a cursive style.

Cheri A. Peifer  
Sr. Environmental Specialist  
Environmental Programs

Enclosure

cc: Sara Pantelidou, P.G., PADEP  
FedEx Tracking Number: 7739 1741 0485



# **Bi-Monthly Progress Report for the Exelon Power (Formerly PECO) RCRA Corrective Action Project**

**Chem Clear Inc. Facility, Chester, Pennsylvania**

**Reporting Period: April 1, 2015 through May 31, 2015**

## **Status of Plan/Report Preparation**

The RCRA Facility Investigation (RFI) Phase III Report was approved by the USEPA on June 25, 1999. The Corrective Measure Study (CMS) requirement of the Consent Order is being fulfilled through the Pennsylvania Act 2 process for the broader Chester Waterfront Redevelopment Project Site, of which the Chem Clear Site is included. The Chester Waterfront Remedial Investigation/Risk Assessment/Remedial Alternatives Assessment (RI/RA/RAA) Report was submitted to the USEPA on March 23, 2000 and to PADEP on June 13, 2000. PADEP approved the RI/RA/RAA in their letter dated September 11, 2000. A Groundwater Monitoring Plan was submitted to USEPA in October 2002, which was later approved, that includes collecting/evaluating two years of groundwater quality data from the Chem Clear Site. The final Quarterly Monitoring Report associated with that Groundwater Monitoring Plan was submitted to PADEP and USEPA in October 2005. In a letter dated March 22, 2001, USEPA approved the RI/RA/RAA Report as the equivalent of the CMS Final Report. The Act 2 Final Report for the Chester Waterfront Site was submitted to PADEP in December 2003 and approved via their April 29, 2004 letter.

## **Status of Activities**

### **Interim Measures - Bio-Slurping System**

The Groundwater Interceptor/Collection Trench (ICT) was brought on-line October 24, 2003 to complement the existing angled extraction well system.

The ICT and extraction wells operated normally during the reporting period. The resulting average run-time efficiency throughout the period was 91% in April 2015 and 85% in May 2015.

### **Interim Measures - Passive Recovery System**

Periodic inspection and routine monitoring of monitoring wells MW-9, MW-13 and MW-14 were conducted during the reporting period. The inspections include observing fluid levels in the wells. If any product was detected, the product was removed using a bailer. These activities are designed to gather information to optimize and adjust the system as necessary. No product was observed in either monitoring well during the current reporting period.

## **Summary of Findings**

### **Interim Measures - Bio-Slurping and ICT System**

The IM bio slurping and ICT system began operation on September 4, 1997. The volume of product recovered from the IM Bio slurping and ICT system, 10,576.88 gallons, is shown in Table 1. The product volume includes product recovered from the oil/water separator. Water recovered by the oil skimmer with the NAPL is decanted from the product recovery drums back into the oil/water separator on a daily basis.

### **Interim Measures - Passive Recovery**

MW-1 and MW-14 were routinely monitored during the entire reporting period for the presence of product. As stated in previous reports, monitoring well MW-6, and the passive recovery system con-



tained within, was destroyed by Preferred Real Estate contractors on or about September 7, 2004. The volume of product recovered from the passive recovery system, 250.57 gallons, is shown in Table 1.

### Interim Measures - Recovered Product

Table 1 summarizes product recovery to date. The product recovered by Clean Ventures is mixed with water, making the volume of product difficult to quantify. The volume of water/product mixture is reported in the Status of Activities section above. The volume of product recovered from the oil/water separator during the reporting period is reported in the Product Recovery table below.

Table 1. Product Recovery Totals		
Source	Product Recovered during Period (gal.)	Cumulative Product Recovered (gal.)
Bio-Slurping System	6.88	10,576.88
Passive Recovery (MW-1 and MW-14)	0	250.57
Total	6.88	10,827.45

Monitoring well MW-6 was destroyed in September 2004 and is no longer part of passive product recovery efforts.

### Summary of Changes Made

A temporary effluent treatment system was installed and started on September 28, 2009. The system was winterized in January 2010 and continues to operate.

A berm was constructed around the treatment area by Sweeney Construction, a contractor for the Buccini Pollin Group (BPG), the site owner/developer in late April 2011. The berm is intended to divert stormwater from the parking lot away from the treatment area.

### Summary of Contacts Made with Community/Regulatory Agencies

- Regular contact maintained with the Buccini Pollin Group (BPG), the site owner/developer, and their consultant Weston Solutions, Inc. regarding overall site redevelopment.
- The facility is currently operated in accordance with Wastewater Discharge Permit No. 1DE 01-06 for Exelon Power effective December 16, 2010 through December 31, 2014; a new wastewater discharge permit under the same permit number was issued by DELCORA effective January 1, 2015 through December 31, 2018.

### Summary of Actual/Potential Problems

- Runtime efficiency in previous months had decreased due to shutdowns caused by fouling of the bag filters.
- A small sheen was observed on the river on May 19, 2015 at the combined sewer overflow (CSO). The source of the sheen was not evident and may have been discharged from the CSO itself.

### Actions Taken to Rectify Problems

- The bag filters were changed daily unless indicated otherwise, which resulted in improved system runtime in April 2015 and May 2015.
- On May 19, 2015, the operator attempted to locate the source of the sheen; however, the source of the sheen was undetermined. An absorbent boom was used to absorb the sheen and no further presence of sheen was observed throughout the duration of the month.

### Personnel Changes

- None during this period.



### Projected Work for the Next Reporting Period

- Clean Ventures will perform product removal as necessary.
- Site personnel will continue to explore ways of improving system runtime efficiency due to clogging bag filters, as necessary.
- Seep observations will continue to be made during each site visit. Routine inspections of MW-14 and MW-1 will continue. Similar inspections of additional site monitoring wells (MW-13 and MW-9) will continue during the next reporting period.
- Routine observations of the ICT will be conducted in order to monitor performance of the ICT as well as its effect on overall system performance.
- Observations of river for the presence of sheen.
- Monitor site development activities and potential impacts on remediation system performance including the presence of sheen on the Delaware River.
- Perform a carbon change out in July.

### Copies of Reports/Data

Table 1 summarizes groundwater data collected during this reporting period for Interim Measures, including water level measurements and seep inspection records. Table 2 is a record of daily readings made by the site operator regarding the groundwater treatment system.



Table 1. Groundwater and Shoreline Monitoring Data

Date	Time	Tide Level	Flow Rate	Seep 1a	Seep 1b	Seep 2	Seep 3a	Seep 3b	Seep 4	Sewer	River	Other	T1	T2
4/1	17:45	L	19	N	N	N	N	N	N	N	N	N	9.42	9.66
4/2	14:40	H	19	N	N	N	N	N	N	N	N	N	9.68	10.14
4/3	17:00	L	19	N	N	N	N	N	N	N	N	N	9.66	10.11
4/4	16:30	L	18	N	N	N	N	N	N	N	N	N	9.53	9.96
4/5	12:00	L	19	N	N	N	N	N	N	N	N	N	9.26	9.39
4/6	14:00	M	19	N	N	N	N	N	N	N	N	N	9.00	9.17
4/7	14:40	M	18	N	N	N	N	N	N	N	N	N	9.48	9.90
4/8	15:30	L	19	N	N	N	N	N	N	N	N	N	10.13	10.29
4/9	15:30	L	16	N	N	N	N	N	N	N	N	N	10.89	10.97
4/10	13:30	L	18	N	N	N	N	N	N	N	N	N	10.56	10.69
4/11	7:30	M	19	N	N	N	N	N	N	N	N	N	9.86	9.91
4/12	9:00	M	18	N	N	N	N	N	N	N	N	N	9.81	9.86
4/13	15:00	M	18	N	N	N	N	N	N	N	N	N	9.01	9.33
4/14	15:00	L	19	N	N	N	N	N	N	N	N	N	11.91	11.94
4/15	17:00	L	19	N	N	N	N	N	N	N	N	N	12.19	12.38
4/16	14:00	M	17	N	N	N	N	N	N	N	N	N	11.90	12.00
4/17	12:00	L	18	N	N	N	N	N	N	N	N	N	11.55	11.69
4/18	9:00	M	18	N	N	N	N	N	N	N	N	N	11.09	11.23
4/19	-	-	-	-	-	-	-	-	-	-	-	-	-	-
4/20	15:00	M	18	N	N	N	N	N	N	N	N	N	DNR	DNR
4/21	14:30	L	20	N	N	N	N	N	N	N	N	N	10.98	11.16
4/22	16:30	L	20	N	N	N	N	N	N	N	N	N	10.52	10.81
4/23	14:30	M	19	N	N	N	N	N	N	N	N	N	10.17	10.38
4/24	15:00	L	19	N	N	N	N	N	N	N	N	N	9.93	10.26
4/25	17:30	H	20	N	N	N	N	N	N	N	N	N	8.91	9.23
4/26	8:30	L	20	N	N	N	N	N	N	N	N	N	10.08	10.33
4/27	17:30	M	19	N	N	N	N	N	N	N	N	N	8.87	9.24
4/28	13:30	M	19	N	N	N	N	N	N	N	N	N	9.41	9.48
4/29	17:30	L	19	N	N	N	N	N	N	N	N	N	9.12	9.26
4/30	15:30	M	18	N	N	N	N	N	N	N	N	N	9.21	9.45
5/1	12:30	L	16	N	N	N	N	N	N	N	N	N	9.67	9.89



Table 1. Groundwater and Shoreline Monitoring Data

Date	Time	Tide Level	Flow Rate	Seep 1a	Seep 1b	Seep 2	Seep 3a	Seep 3b	Seep 4	Sewer	River	Other	T1	T2
5/2	8:30	M	17	N	N	N	N	N	N	N	N	N	9.31	9.56
5/3	9:00	L	18	N	N	N	N	N	N	N	N	N	9.73	10.07
5/4	13:00	H	18	N	N	N	N	N	N	N	N	N	9.61	9.89
5/5	15:30	M	18	N	N	N	N	N	N	N	N	N	10.71	10.84
5/6	15:30	H	18	N	N	N	N	N	N	N	N	N	11.31	11.49
5/7	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5/8	15:00	L	19	N	N	N	N	N	N	N	N	N	11.68	11.79
5/9	9:00	H	19	N	N	N	N	N	N	N	N	N	10.71	11.03
5/10	10:30	M	19	N	N	N	N	N	N	N	N	N	10.82	11.13
5/11	15:00	L	20	N	N	N	N	N	N	N	N	N	11.79	12.00
5/12	15:30	L	20	N	N	N	N	N	N	N	N	N	13.14	13.41
5/13	17:00	L	20	N	N	N	N	N	N	N	N	N	12.86	12.99
5/14	15:00	M	20	N	N	N	N	N	N	N	N	N	12.61	12.82
5/15	15:00	M	19	N	N	N	N	N	N	N	N	N	12.13	12.31
5/16	8:30	M	20	N	N	N	N	N	N	N	N	N	12.26	12.49
5/17	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5/18	12:00	M	20	N	N	N	N	N	N	N	N	N	11.50	11.67
5/19	15:00	H	20	N	N	N	N	N	N	Y	N	N	10.98	11.14
5/20	17:00	H	18	N	N	N	N	N	N	N	N	N	9.98	10.16
5/21	14:00	M	19	N	N	N	N	N	N	N	N	N	10.48	10.71
5/22	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5/23	9:00	L	20	N	N	N	N	N	N	N	N	N	10.64	10.92
5/24	9:00	M	20	N	N	N	N	N	N	N	N	N	10.51	10.73
5/25	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5/26	15:30	L	17	N	N	N	N	N	N	N	N	N	10.21	10.46
5/27	17:00	L	19	N	N	N	N	N	N	N	N	N	10.13	10.31
5/28	14:30	L	20	N	N	N	N	N	N	N	N	N	9.93	10.16
5/29	15:00	L	19	N	N	N	N	N	N	N	N	N	10.21	10.67
5/30	-	-	-	-	-	-	-	-	-	-	-	-	-	-
5/31	-	-	-	-	-	-	-	-	-	-	-	-	-	-



**Table 1. Groundwater and Shoreline Monitoring Data**

Date	Time	Tide Level	Flow Rate	Seep 1a	Seep 1b	Seep 2	Seep 3a	Seep 3b	Seep 4	Sewer	River	Other	T1	T2
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General Notes (Applicable for Table 1 and Table 2):

1. Background and riverbank piezometers (G-2A, G-2C, G-3A, G-7B, G-7C, G-8, G-9B, G-10, G-13, G-16, and G-19) were decommissioned in December 2002.
2. The interceptor/collection trench was brought online on October 23, 2003.
3. Flow rate is the pretreatment system discharge flow rate to sewer in gallons per minute (gpm).
4. Seep areas along shoreline were covered by rip-rap as of January 17, 2003. Sheen observations, when observed, are adjacent to seep areas along river or sand flats.
5. Water depth measurements in collection trench manholes T1 and T2 are from the top of the manhole casing in feet (ft). Reference elevations: T1 = 6.99 ft, msl and T2 = 7.09 ft, msl.
6. Manhole T1 was raised 2 feet on January 14, 2008. Manhole T2 was raised 1 foot on January 15, 2008. Product level measurements are in inches from top of manhole to product.
7. NM = No measurement.
8. For tide level measurement column, 'L' indicates low tide, 'M' indicates medium tide, and 'H' indicates high tide.
9. T1 and T2 measurements taken after trenches have been pumped out (i.e at the end of the operator's shift).



Table 2. Groundwater Remediation System Monitoring Data

Date	Time	Run Time Meter (hours)	Elapsed Time (hours)	Totalizer Reading (gallons)	Discharge Flow (gallons)	Discharge Flow (gpm)	Notes	Product Level (ft. in drum)	KO Tank Vac. (in. Hg.)	Tide Level	Seep Obs.	Product Level (gallons in drum)
4/1	17:45	1,355	16	2,563,875	3,407	49	Changed bags, ran trench, took daily readings	2.500	19	L	N	51.6
4/2	14:40	1,376	21	2,575,177	11,302	44	Changed bags, ran trench, took daily readings	2.500	19	H	N	51.6
4/3	17:00	1,402	26	2,578,973	3,796	43	Changed bags, ran trench, took daily readings	2.500	19	L	N	51.6
4/4	16:30	1,426	24	2,583,497	4,524	50	Backwashed the lead and lag carbon vessels, changed bags, ran trench, took daily readings	2.500	18	L	N	51.6
4/5	12:00	1,445	19	2,587,005	3,508	50	Changed bags, ran trench, took daily readings	2.500	19	L	N	51.6
4/6	14:00	1,471	26	2,594,771	7,766	45	Changed bags, ran trench, took daily readings	2.500	19	M	N	51.6
4/7	14:40	1,495	24	2,599,925	5,154	40	Changed bags, ran trench, took daily readings	2.500	18	M	N	51.6
4/8	15:30	1,520	25	2,606,187	6,262	43	Changed bags, ran trench, took daily readings	2.500	19	L	N	51.6
4/9	15:30	1,544	24	2,615,422	9,235	43	Changed bags, ran trench, took daily readings	2.500	16	L	N	51.6
4/10	13:30	1,565	21	2,618,523	3,101	45	Backwashed the lead and lag carbon vessels, changed bags, ran trench, took daily readings	2.500	18	L	N	51.6
4/11	7:30	1,584	19	2,620,961	2,438	44	Changed bags, ran trench, took daily readings	2.500	19	M	N	51.6
4/12	9:00	1,609	25	2,625,221	4,260	43	Changed bags, ran trench, took daily readings	2.500	18	M	N	51.6
4/13	15:00	1,638	29	2,635,014	9,793	40	Changed bags, ran trench, took daily readings	2.500	18	M	N	51.6
4/14	15:00	1,661	23	2,643,011	7,997	45	Backwashed the lead and lag carbon vessels, changed bags, ran trench, took daily readings	2.500	19	L	N	51.6
4/15	17:00	1,684	23	2,651,011	8,000	45	Changed bags, ran trench, took daily readings	2.500	19	L	N	51.6
4/16	14:00	1,705	21	2,655,058	4,047	43	Changed bags, ran trench, took daily readings	2.500	17	M	N	51.6
4/17	12:00	1,727	22	2,659,050	3,992	43	Changed bags, ran trench, took daily readings	2.500	18	L	N	51.6
4/18	9:00	1,748	21	2,661,002	1,952	46	Backwashed the lead and lag carbon vessels, changed bags, ran trench, took daily readings	2.500	18	M	N	51.6
4/19	-	-	-	-	-	-	-	-	-	-	-	-
4/20	15:00	1,782	34	2,671,477	10,475	45	Changed bags, ran trench, took daily readings	2.500	18	M	N	51.6
4/21	14:30	1,805	23	2,674,769	3,292	43	Changed bags, ran trench, took daily readings	2.500	20	L	N	51.6
4/22	16:30	1,830	25	2,680,013	5,244	51	Changed bags, ran trench, took daily readings	2.583	20	L	N	53.32
4/23	14:30	1,851	21	2,689,014	9,001	50	Changed bags, ran trench, took daily readings	2.583	19	M	N	53.32
4/24	15:00	1,876	25	2,691,832	2,818	49	Changed bags, ran trench, took daily readings	2.583	19	L	N	53.32
4/25	17:30	1,903	27	2,695,746	3,914	48	Changed bags, ran trench, took daily readings	2.583	20	H	N	53.32
4/26	8:30	1,918	15	2,697,419	1,673	49	Backwashed the lead and lag carbon vessels, changed bags, ran trench, took daily readings	2.583	20	L	N	53.32
4/27	17:30	1,949	31	2,701,775	4,356	46	Changed bags, ran trench, took daily readings	2.583	19	M	N	53.32
4/28	13:30	1,967	18	2,707,500	5,725	44	Changed bags, ran trench, took daily readings	2.583	19	M	N	53.32
4/29	17:30	1,983	16	2,710,592	3,092	36	Changed bags, ran trench, took daily readings	2.583	19	L	N	53.32
4/30	15:30	2,004	21	2,718,541	7,949	48	Backwashed the lead and lag carbon vessels, changed bags, ran trench, took daily readings	2.583	18	M	N	53.32
5/1	12:30	2,007	3	2,719,201	660	45	Changed bags, ran trench, took daily readings	2.583	16	L	N	53.32
5/2	8:30	2,012	5	2,719,782	581	41	Changed bags, ran trench, took daily readings	2.583	17	M	N	53.32
5/3	9:00	2,015	3	2,721,560	1,778	49	Backwashed the lead and lag carbon vessels, changed bags, ran trench, took daily readings	2.583	18	L	N	53.32
5/4	13:00	2,023	8	2,728,911	7,351	44	Changed bags, ran trench, took daily readings	2.583	18	H	N	53.32
5/5	15:30	2,058	35	2,739,511	10,600	40	Changed bags, ran trench, took daily readings	2.583	18	M	N	53.32
5/6	15:30	2,072	14	2,750,531	11,020	40	Changed bags, ran trench, took daily readings	2.583	18	H	N	53.32
5/7	-	-	-	-	-	-	-	-	-	-	-	-
5/8	15:00	2,111	39	2,760,334	9,803	49	Backwashed the lead and lag carbon vessels, changed bags, ran trench, took daily readings	2.583	19	L	N	53.32
5/9	9:00	2,129	18	2,763,130	2,796	47	Changed bags, ran trench, took daily readings	2.583	19	H	N	53.32
5/10	10:30	2,155	26	2,766,434	3,304	47	Changed bags, ran trench, took daily readings	2.583	19	M	N	53.32
5/11	15:00	2,183	28	2,779,054	12,620	40	Changed bags, ran trench, took daily readings	2.583	20	L	N	53.32

Brown and Caldwell

Table 2. Groundwater Remediation System Monitoring Data

Date	Time	Run Time Meter (hours)	Elapsed Time (hours)	Totalizer Reading (gallons)	Discharge Flow (gallons)	Discharge Flow (gpm)	Notes	Product Level (ft. in drum)	KO Tank Vac. (in. Hg.)	Tide Level	Seep Obs.	Product Level (gallons in drum)
5/12	15:30	2,207	24	2,790,144	11,090	40	Changed bags, ran trench, took daily readings	2.583	20	L	N	53.32
5/13	17:00	2,232	25	2,792,306	2,162	40	Changed bags, ran trench, took daily readings	2.583	20	L	N	53.32
5/14	15:00	2,252	20	2,797,181	4,875	49	Backwashed the lead and lag carbon vessels, changed bags, ran trench, took daily readings	2.667	20	M	N	55.04
5/15	15:00	2,276	24	2,799,246	2,065	47	Changed bags, ran trench, took daily readings	2.667	19	M	N	55.04
5/16	8:30	2,293	17	2,800,351	1,105	46	Changed bags, ran trench, took daily readings	2.667	20	M	N	55.04
5/17	-	-	-	-	-	-	-	-	-	-	-	-
5/18	12:00	2,345	52	2,807,911	7,560	42	Changed bags, ran trench, took daily readings	2.750	20	M	N	56.76
5/19	15:00	2,373	28	2,810,391	2,480	40	Changed bags, ran trench, took daily readings	2.750	20	H	Y	56.76
5/20	17:00	2,393	20	2,812,452	2,061	41	Changed bags, ran trench, took daily readings	2.750	18	H	N	56.76
5/21	14:00	2,415	22	2,816,991	4,539	40	Changed bags, ran trench, took daily readings	2.750	19	M	N	56.76
5/22	-	-	-	-	-	-	-	-	-	-	-	-
5/23	9:00	2,458	43	2,817,733	742	41	Changed bags, ran trench, took daily readings	2.750	20	L	N	56.76
5/24	9:00	2,482	24	2,819,997	2,264	40	Changed bags, ran trench, took daily readings	2.833	20	M	N	58.48
5/25	-	-	-	-	-	-	-	-	-	-	-	-
5/26	15:30	2,536	54	2,826,951	6,954	45	Backwashed the lead and lag carbon vessels, changed bags, ran trench, took daily readings	2.833	17	L	N	58.48
5/27	17:00	2,562	26	2,827,906	955	42	Changed bags, ran trench, took daily readings	2.833	19	L	N	58.48
5/28	14:30	2,583	21	2,827,939	33	40	Changed bags, ran trench, took daily readings	2.833	20	L	N	58.48
5/29	15:00	2,606	23	2,829,049	1,110	50	Backwashed the lead and lag carbon vessels, changed bags, ran trench, took daily readings	2.833	19	L	N	58.48
5/30	-	-	-	-	-	-	-	-	-	-	-	-
5/31	-	-	-	-	-	-	-	-	-	-	-	-





**Cheri Peifer**  
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**FedEx Tracking Number: 7734 2052 5884**

April 21, 2015

U.S. Environmental Protection Agency  
Region III (3WC22)  
1650 Arch Street  
Philadelphia, PA 19103-2029

Attn: Mr. Khai Dao

Subject: Chem-Clear, Inc. Facility, Chester, PA  
RCRA §3008(h) Corrective Action Consent Order  
U.S. EPA Docket No.: RCRA-3-064CA

Dear Khai:

In accordance with the above referenced final consent order, Section G(24), we are submitting four (4) copies of the bimonthly progress report for the reporting period of February 1, 2015 through March 31, 2015. If you have any questions or require additional information, please feel free to contact me at 610-765-5773 or via e-mail at [cheri.peifer@exeloncorp.com](mailto:cheri.peifer@exeloncorp.com).

Sincerely,

A handwritten signature in black ink that reads "Cheri A. Peifer".

Cheri A. Peifer  
Sr. Environmental Specialist  
Environmental Programs

Enclosure

cc: Sara Pantelidou, P.G., PADEP  
FedEx Tracking Number: 7734 2055 9805



# **Bi-Monthly Progress Report for the Exelon Power (Formerly PECO) RCRA Corrective Action Project**

**Chem Clear Inc. Facility, Chester, Pennsylvania**

**Reporting Period: February 1, 2015 through March 31, 2015**

## **Status of Plan/Report Preparation**

The RCRA Facility Investigation (RFI) Phase III Report was approved by the USEPA on June 25, 1999. The Corrective Measure Study (CMS) requirement of the Consent Order is being fulfilled through the Pennsylvania Act 2 process for the broader Chester Waterfront Redevelopment Project Site, of which the Chem Clear Site is included. The Chester Waterfront Remedial Investigation/Risk Assessment/Remedial Alternatives Assessment (RI/RA/RAA) Report was submitted to the USEPA on March 23, 2000 and to PADEP on June 13, 2000. PADEP approved the RI/RA/RAA in their letter dated September 11, 2000. A Groundwater Monitoring Plan was submitted to USEPA in October 2002, which was later approved, that includes collecting/evaluating two years of groundwater quality data from the Chem Clear Site. The final Quarterly Monitoring Report associated with that Groundwater Monitoring Plan was submitted to PADEP and USEPA in October 2005. In a letter dated March 22, 2001, USEPA approved the RI/RA/RAA Report as the equivalent of the CMS Final Report. The Act 2 Final Report for the Chester Waterfront Site was submitted to PADEP in December 2003 and approved via their April 29, 2004 letter.

## **Status of Activities**

### **Interim Measures - Bio-Slurping System**

The Groundwater Interceptor/Collection Trench (ICT) was brought on-line October 24, 2003 to complement the existing angled extraction well system.

The ICT and extraction wells operated normally during the reporting period. The resulting average run-time efficiency throughout the period was 85% in February 2015 and 82% in March 2015.

No sheen was observed during the seep inspections for the month of February 2015 or March 2015. Seep checks are made during each visit.

### **Interim Measures - Passive Recovery System**

Periodic inspection and routine monitoring of monitoring wells MW-1, MW-9, MW-13 and MW-14 were conducted during the reporting period. The inspections include observing fluid levels in the wells. If any product was detected, the product was removed using a bailer. These activities are designed to gather information to optimize and adjust the system as necessary. No product was observed in either monitoring well during the current reporting period.

## **Summary of Findings**

### **Interim Measures - Bio-Slurping and ICT System**

The IM bio slurping and ICT system began operation on September 4, 1997. The volume of product recovered from the IM Bio slurping and ICT system, 10,570 gallons, is shown in Table 1. The product volume includes product recovered from the oil/water separator. Water recovered by the oil skimmer with the NAPL is decanted from the product recovery drums back into the oil/water separator on a daily basis.



### Interim Measures - Passive Recovery

MW-1 and MW-14 were routinely monitored during the entire reporting period for the presence of product. As stated in previous reports, monitoring well MW-6, and the passive recovery system contained within, was destroyed by Preferred Real Estate contractors on or about September 7, 2004. The volume of product recovered from the passive recovery system, 250.57 gallons, is shown in Table 1.

### Interim Measures - Recovered Product

Table 1 summarizes product recovery to date. The product recovered by Clean Ventures is mixed with water, making the volume of product difficult to quantify. The volume of water/product mixture is reported in the Status of Activities section above. The volume of product recovered from the oil/water separator during the reporting period is reported in the Product Recovery table below.

Table 1. Product Recovery Totals		
Source	Product Recovered during Period (gal.)	Cumulative Product Recovered (gal.)
Bio-Slurping System	15.5	10,570
Passive Recovery (MW-1 and MW-14)	0	250.57
Total	15.5	10,820.57

*Monitoring well MW-6 was destroyed in September 2004 and is no longer part of passive product recovery efforts.*

### Summary of Changes Made

A temporary effluent treatment system was installed and started on September 28, 2009. The system was winterized in January 2010 and continues to operate.

A berm was constructed around the treatment area by Sweeney Construction, a contractor for the Buccini Pollin Group (BPG), the site owner/developer in late April 2011. The berm is intended to divert stormwater from the parking lot away from the treatment area.

### Summary of Contacts Made with Community/Regulatory Agencies

- Regular contact maintained with the Buccini Pollin Group (BPG), the site owner/developer, and their consultant Weston Solutions, Inc. regarding overall site redevelopment.
- The facility is currently operated in accordance with Wastewater Discharge Permit No. 1DE 01-06 for Exelon Power effective December 16, 2010 through December 31, 2014; a new wastewater discharge permit under the same permit number was issued by DELCORA effective January 1, 2015 through December 31, 2018.

### Summary of Actual/Potential Problems

- Runtime efficiency in previous months had decreased due to shutdowns caused by fouling of the bag filters.

### Actions Taken to Rectify Problems

- The bag filters were changed daily which resulted in improved system runtime in February 2015 and March 2015.

### Personnel Changes

- None during this period.

### Projected Work for the Next Reporting Period

- Clean Ventures will perform product removal as necessary.



- Site personnel will continue to explore ways of improving system runtime efficiency due to clogging bag filters, as necessary.
- Seep observations will continue to be made during each site visit. Routine inspections of MW-14 and MW-1 will continue. Similar inspections of additional site monitoring wells (MW-13 and MW-9) will continue during the next reporting period.
- Routine observations of the ICT will be conducted in order to monitor performance of the ICT as well as its effect on overall system performance.
- Observations of river for sheen presence.
- Monitor site development activities and potential impacts on remediation system performance including the presence of sheen on the Delaware River.

### **Copies of Reports/Data**

Table 1 summarizes groundwater data collected during this reporting period for Interim Measures, including water level measurements and seep inspection records. Table 2 is a record of daily readings made by the site operator regarding the groundwater treatment system.



Table 1. Groundwater and Shoreline Monitoring Data

Date	Time	Tide Level	Flow Rate	Seep 1a	Seep 1b	Seep 2	Seep 3a	Seep 3b	Seep 4	Sewer	River	Other	T1	T2
2/1	13:00	M	38	N	N	N	N	N	N	N	N	N	9.20	9.31
2/2	10:00	L	35	N	N	N	N	N	N	N	N	N	9.11	9.21
2/3	11:00	M	35	N	N	N	N	N	N	N	N	N	9.64	9.77
2/4	17:00	L	34	N	N	N	N	N	N	N	N	N	10.01	10.13
2/5	14:00	H	30	N	N	N	N	N	N	N	N	N	9.61	9.68
2/6	14:00	L	38	N	N	N	N	N	N	N	N	N	10.61	10.82
2/7	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2/8	10:00	M	38	N	N	N	N	N	N	N	N	N	10.29	10.49
2/9	9:00	L	35	N	N	N	N	N	N	N	N	N	10.49	10.70
2/10	8:00	M	35	N	N	N	N	N	N	N	N	N	10.14	10.27
2/11	17:00	L	29	N	N	N	N	N	N	N	N	N	9.58	9.67
2/12	15:00	L	55	N	N	N	N	N	N	N	N	N	10.12	10.26
2/13	17:30	L	55	N	N	N	N	N	N	N	N	N	9.96	10.11
2/14	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2/15	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2/16	13:00	L	0	N	N	N	N	N	N	N	N	N	8.81	8.96
2/17	-	-	-	-	-	-	-	-	-	-	-	-	-	-
2/18	14:00	H	48	N	N	N	N	N	N	N	N	N	8.92	9.13
2/19	14:30	L	41	N	N	N	N	N	N	N	N	N	9.01	9.27
2/20	14:30	L	38	N	N	N	N	N	N	N	N	N	8.81	8.92
2/21	9:30	M	39	N	N	N	N	N	N	N	N	N	8.69	8.70
2/22	9:30	H	40	N	N	N	N	N	N	N	N	N	8.39	8.48
2/23	16:30	L	55	N	N	N	N	N	N	N	N	N	8.93	9.09
2/24	14:00	L	59	N	N	N	N	N	N	N	N	N	9.47	9.81
2/25	13:30	L	50	N	N	N	N	N	N	N	N	N	9.79	9.84
2/26	12:00	M	45	N	N	N	N	N	N	N	N	N	9.45	9.67
2/27	15:00	L	46	N	N	N	N	N	N	N	N	N	9.98	10.16
2/28	9:00	L	45	N	N	N	N	N	N	N	N	N	10.12	10.29
3/1	10:00	L	45	N	N	N	N	N	N	N	N	N	10.18	10.34
3/2	8:00	H	45	N	N	N	N	N	N	N	N	N	10.31	10.47
3/3	17:30	M	49	N	N	N	N	N	N	N	N	N	10.34	10.40



Table 1. Groundwater and Shoreline Monitoring Data

Date	Time	Tide Level	Flow Rate	Seep 1a	Seep 1b	Seep 2	Seep 3a	Seep 3b	Seep 4	Sewer	River	Other	T1	T2
3/4	15:00	L	49	N	N	N	N	N	N	N	N	N	10.19	10.32
3/5	8:30	L	45	N	N	N	N	N	N	N	N	N	NM	NM
3/6	9:30	L	44	N	N	N	N	N	N	N	N	N	NM	NM
3/7	9:30	L	44	N	N	N	N	N	N	N	N	N	NM	NM
3/8	17:00	L	41	N	N	N	N	N	N	N	N	N	10.21	10.19
3/9	12:00	L	35	N	N	N	N	N	N	N	N	N	11.16	11.30
3/10	14:00	L	30	N	N	N	N	N	N	N	N	N	11.58	11.71
3/11	14:30	M	50	N	N	N	N	N	N	N	N	N	NM	NM
3/12	16:30	L	47	N	N	N	N	N	N	N	N	N	10.87	10.99
3/13	16:30	L	44	N	N	N	N	N	N	N	N	N	9.93	10.11
3/14	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3/15	9:00	L	43	N	N	N	N	N	N	N	N	N	10	10.07
3/16	15:00	H	45	N	N	N	N	N	N	N	N	N	7.00	7.29
3/17	15:00	H	40	N	N	N	N	N	N	N	N	N	7.96	8
3/18	16:00	L	41	N	N	N	N	N	N	N	N	N	9.92	10.14
3/19	15:00	H	45	N	N	N	N	N	N	N	N	N	8.99	9.07
3/20	14:30	L	51	N	N	N	N	N	N	N	N	N	9.98	10.13
3/21	9:30	M	50	N	N	N	N	N	N	N	N	N	9.22	9.84
3/22	9:30	L	52	N	N	N	N	N	N	N	N	N	9.32	9.91
3/23	17:00	L	51	N	N	N	N	N	N	N	N	N	9.19	9.36
3/24	14:30	L	48	N	N	N	N	N	N	N	N	N	9.65	9.78
3/25	17:00	L	44	N	N	N	N	N	N	N	N	N	8.93	9.21
3/26	15:00	L	42	N	N	N	N	N	N	N	N	N	9.27	9.96
3/27	15:00	L	44	N	N	N	N	N	N	N	N	N	9.92	10.13
3/28	10:00	L	46	N	N	N	N	N	N	N	N	N	10.13	10.19
3/29	9:00	L	45	N	N	N	N	N	N	N	N	N	10.09	10.24
3/30	-	-	-	-	-	-	-	-	-	-	-	-	-	-
3/31	14:30	L	50	N	N	N	N	N	N	N	N	N	10.13	10.26

General Notes (Applicable for Table 1 and Table 2):

1. Background and riverbank piezometers (G-2A, G-2C, G-3A, G-7B, G-7C, G-8, G-9B, G-10, G-13, G-16, and G-19) were decommissioned in December 2002.
2. The interceptor/collection trench was brought online on October 23, 2003.



**Table 1. Groundwater and Shoreline Monitoring Data**

Date	Time	Tide Level	Flow Rate	Seep 1a	Seep 1b	Seep 2	Seep 3a	Seep 3b	Seep 4	Sewer	River	Other	T1	T2
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3. Flow rate is the pretreatment system discharge flow rate to sewer in gallons per minute (gpm).
4. Seep areas along shoreline were covered by rip-rap as of January 17, 2003. Sheen observations, when observed, are adjacent to seep areas along river or sand flats.
5. Water depth measurements in collection trench manholes T1 and T2 are from the top of the manhole casing in feet (ft). Reference elevations: T1 = 6.99 ft, msl and T2 = 7.09 ft, msl.
6. Manhole T1 was raised 2 feet on January 14, 2008. Manhole T2 was raised 1 foot on January 15, 2008. Product level measurements are in inches from top of manhole to product.
7. NM = No measurement.
8. For tide level measurement column, 'L' indicates low tide, 'M' indicates medium tide, and 'H' indicates high tide.
9. T1 and T2 measurements taken after trenches have been pumped out (i.e. at the end of the operator's shift).

Table 2. Groundwater Remediation System Monitoring Data

Date	Time	Run Time Meter (hours)	Elapsed Time (hours)	Totalizer Reading (gallons)	Discharge Flow (gallons)	Discharge Flow (gpm)	Notes	Product Level (ft. in drum)	KO Tank Vac. (in. Hg.)	Tide Level	Seep Obs.	Product Level (gallons in drum)
2/1	13:00	194	26	2,363,942	2,269	38	Changed bags, ran trench, took daily readings	1.750	20	M	N	36.1
2/2	10:00	220	26	2,366,419	2,477	35	Changed bags, ran trench, took daily readings	1.750	19	L	N	36.1
2/3	11:00	241	21	2,369,022	2,603	35	Changed bags, ran trench, took daily readings	1.750	19	M	N	36.1
2/4	17:00	265	24	2,370,603	1,581	34	Changed bags, ran trench, took daily readings	1.750	19	L	N	36.1
2/5	14:00	286	21	2,372,583	1,980	30	Changed bags, ran trench, took daily readings	1.917	20	H	N	39.6
2/6	14:00	303	17	2,375,173	2,590	38	Backwashed the lead and lag carbon vessels, changed bags, ran trench, took daily readings	1.917	19	L	N	39.6
2/7	-	-	-	-	-	-	-	-	-	-	-	-
2/8	10:00	346	43	2,377,165	1,992	38	Changed bags, ran trench, took daily readings	1.917	19	M	N	39.6
2/9	9:00	370	24	2,381,044	3,879	35	Collected monthly sample pH = 7.07. Changed bags, ran trench, took daily readings	1.917	20	L	N	39.6
2/10	8:00	389	19	2,384,074	3,030	35	Changed bags, ran trench, took daily readings	1.917	20	M	N	39.6
2/11	17:00	405	16	2,385,192	1,118	29	Changed bags, ran trench, took daily readings	1.917	17	L	N	39.6
2/12	15:00	423	18	2,389,512	4,320	55	Backwashed the lead and lag carbon vessels, changed bags, ran trench, took daily readings	1.917	19	L	N	39.6
2/13	17:30	448	25	2,395,533	6,021	55	Changed bags, ran trench, took daily readings	2.000	17	L	N	41.3
2/14	-	-	-	-	-	-	-	-	-	-	-	-
2/15	-	-	-	-	-	-	-	-	-	-	-	-
2/16	13:00	487	39	2,398,606	3,073	0	System Down	2.083	0	L	N	43.0
2/17	-	-	-	-	-	-	-	-	-	-	-	-
2/18	14:00	511	24	2,398,719	113	48	Backwashed the lead and lag carbon vessels, changed bags, ran trench, took daily readings	2.083	16	H	N	43.0
2/19	14:30	536	25	2,402,228	3,509	41	Changed bags, ran trench, took daily readings	2.083	11	L	N	43.0
2/20	14:30	560	24	2,404,189	1,961	38	Changed bags, ran trench, took daily readings	2.083	11	L	N	43.0
2/21	9:30	578	18	2,405,013	824	39	Changed bags, ran trench, took daily readings	2.083	11	M	N	43.0
2/22	9:30	602	24	2,407,863	2,850	40	Changed bags, ran trench, took daily readings	2.167	11	H	N	44.7
2/23	16:30	632	30	2,411,593	3,730	55	Backwashed the lead and lag carbon vessels, changed bags, ran trench, took daily readings	2.167	15	L	N	44.7
2/24	14:00	653	21	2,416,233	4,640	59	Changed bags, ran trench, took daily readings	2.167	19	L	N	44.7
2/25	13:30	678	25	2,421,011	4,778	50	Changed bags, ran trench, took daily readings	2.167	19	L	N	44.7
2/26	12:00	699	21	2,423,550	2,539	45	Changed bags, ran trench, took daily readings	2.167	20	M	N	44.7
2/27	15:00	726	27	2,425,756	2,206	46	Changed bags, ran trench, took daily readings	2.167	19	L	N	44.7
2/28	9:00	744	18	2,427,278	1,522	45	Changed bags, ran trench, took daily readings	2.167	19	L	N	44.7
3/1	10:00	768	24	2,430,767	3,489	45	Changed bags, ran trench, took daily readings	2.250	20	L	N	46.4
3/2	8:00	793	25	2,434,211	3,444	45	Changed bags, ran trench, took daily readings	2.250	19	H	N	46.4
3/3	17:30	815	22	2,445,498	11,287	49	Backwashed the lead and lag carbon vessels, changed bags, ran trench, took daily readings	2.250	19	M	N	46.4
3/4	15:00	848	33	2,447,324	1,826	49	Changed bags, ran trench, took daily readings	2.250	19	L	N	46.4
3/5	8:30	870	22	2,449,486	2,162	45	Changed bags, ran trench, took daily readings	2.250	19	L	N	46.4
3/6	9:30	887	17	2,451,458	1,972	44	Changed bags, ran trench, took daily readings	2.333	20	L	N	48.2
3/7	9:30	912	25	2,453,088	1,630	44	Changed bags, ran trench, took daily readings	2.333	20	L	N	48.2
3/8	17:00	935	23	2,456,633	3,545	41	Changed bags, ran trench, took daily readings	2.333	20	L	N	48.2
3/9	12:00	964	29	2,464,636	8,003	35	Changed bags, ran trench, took daily readings	2.333	20	L	N	48.2
3/10	14:00	984	20	2,470,421	5,785	30	Collected monthly sample pH = 7.10. Changed bags, ran trench, took daily readings	2.333	19	L	N	48.2
3/11	14:30	1,011	27	2,478,814	6,393	50	Backwashed the lead and lag carbon vessels, changed bags, ran trench, took daily readings	2.333	20	M	N	48.2
3/12	16:30	1,028	17	2,479,979	3,165	47	Changed bags, ran trench, took daily readings	2.333	17	L	N	48.2
3/13	16:30	1,041	13	2,480,850	871	44	Changed bags, ran trench, took daily readings	2.333	19	L	N	48.2

Brown and Caldwell

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4/16/2015



Date	Time	Run Time Meter (hours)	Elapsed Time (hours)	Totalizer Reading (gallons)	Discharge Flow (gallons)	Discharge Flow (gpm)	Notes	Product Level (ft. in drum)	KO Tank Vac. (in. Hg.)	Tide Level	Seep Obs.	Product Level (gallons in drum)
3/14	-	-	-	-	-	-	-	-	-	-	-	-
3/15	9:00	1,064	23	2,483,642	2,792	43	Changed bags, ran trench, took daily readings	2.333	19	L	N	48.2
3/16	15:00	1,093	29	2,492,671	9,029	45	Changed bags, ran trench, took daily readings	2.333	19	H	N	48.2
3/17	15:00	1,117	24	2,500,133	7,462	40	Changed bags, ran trench, took daily readings	2.333	19	H	N	48.2
3/18	16:00	1,141	24	2,504,572	4,439	41	Changed bags, ran trench, took daily readings	2.333	18	L	N	48.2
3/19	15:00	1,164	23	2,515,271	10,699	45	Backwashed the lead and lag carbon vessels, changed bags, ran trench, took daily readings	2.333	19	H	N	48.2
3/20	14:30	1,181	17	2,520,513	5,242	51	Backwashed the lead and lag carbon vessels, changed bags, ran trench, took daily readings	2.333	19	L	N	48.2
3/21	9:30	1,200	19	2,522,509	1,996	50	Changed bags, ran trench, took daily readings	2.333	19	M	N	48.2
3/22	9:30	1,217	17	2,524,983	2,474	52	Changed bags, ran trench, took daily readings	2.333	19	L	N	48.2
3/23	17:00	1,225	8	2,533,699	8,716	51	Changed bags, ran trench, took daily readings	2.333	19	L	N	48.2
3/24	14:30	1,243	18	2,541,794	8,095	48	Changed bags, ran trench, took daily readings	2.333	19	L	N	48.2
3/25	17:00	1,246	3	2,542,025	231	44	Changed bags, ran trench, took daily readings	2.417	18	L	N	49.9
3/26	15:00	1,262	16	2,546,971	4,946	42	Changed bags, ran trench, took daily readings	2.417	18	L	N	49.9
3/27	15:00	1,274	12	2,548,551	1,580	44	Changed bags, ran trench, took daily readings	2.500	19	L	N	51.6
3/28	10:00	1,291	17	2,550,115	1,564	46	Changed bags, ran trench, took daily readings	2.500	19	L	N	51.6
3/29	9:00	1,314	23	2,553,892	3,777	45	Changed bags, ran trench, took daily readings	2.500	19	L	N	51.6
3/30	-	-	-	-	-	-	Carbon change. System Down for carbon hydration	-	-	-	-	-
3/31	14:30	1,339	25	2,560,468	6,576	50	Backwashed the lead and lag carbon vessels, changed bags, ran trench, took daily readings	2.500	18	L	N	51.6
4/1	-	-	-	-	-	-	-	-	-	-	-	51.6



**FedEx Tracking Number: 7756 9971 3524**

February 22, 2015

U.S. Environmental Protection Agency  
Region III (3WC22)  
1650 Arch Street  
Philadelphia, PA 19103-2029

Attn: Mr. Khai Dao

Subject: Chem-Clear, Inc. Facility, Chester, PA  
RCRA §3008(h) Corrective Action Consent Order  
U.S. EPA Docket No.: RCRA-3-064CA

Dear Khai:

In accordance with the above referenced final consent order, Section G(24), we are submitting four (4) copies of the bimonthly progress report for the reporting period of December 1, 2015 through January 31, 2016. If you have any questions or require additional information, please feel free to contact me at 410-470-0238 or via e-mail at [john.murosko@exeloncorp.com](mailto:john.murosko@exeloncorp.com).

Sincerely,

A handwritten signature in black ink, appearing to read "Jack Murosko", written over a horizontal line.

Jack Murosko, P.G.  
Project Manager  
Environmental Programs

Enclosure

cc: Sara Pantelidou, P.G., PADEP  
FedEx Tracking Number: 7756 9958 1360

**Jack Murosko, P.G.**  
Sr. Environmental Specialist  
Environmental Programs

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# **Bi-Monthly Progress Report for the Exelon Generation (Formerly PECO) RCRA Corrective Action Project**

**Chem Clear Inc. Facility, Chester, Pennsylvania**

**Reporting Period: December 1, 2015 through January 31, 2016**

## **Status of Plan/Report Preparation**

The RCRA Facility Investigation (RFI) Phase III Report was approved by the USEPA on June 25, 1999. The Corrective Measure Study (CMS) requirement of the Consent Order is being fulfilled through the Pennsylvania Act 2 process for the broader Chester Waterfront Redevelopment Project Site, of which the Chem Clear Site is included. The Chester Waterfront Remedial Investigation/Risk Assessment/Remedial Alternatives Assessment (RI/RA/RAA) Report was submitted to the USEPA on March 23, 2000 and to PADEP on June 13, 2000. PADEP approved the RI/RA/RAA in their letter dated September 11, 2000. A Groundwater Monitoring Plan was submitted to USEPA in October 2002, which was later approved, that includes collecting/evaluating two years of groundwater quality data from the Chem Clear Site. The final Quarterly Monitoring Report associated with that Groundwater Monitoring Plan was submitted to PADEP and USEPA in October 2005. In a letter dated March 22, 2001, USEPA approved the RI/RA/RAA Report as the equivalent of the CMS Final Report. The Act 2 Final Report for the Chester Waterfront Site was submitted to PADEP in December 2003 and approved via their April 29, 2004 letter.

## **Status of Activities**

### **Interim Measures - Bio-Slurping System**

The Groundwater Interceptor/Collection Trench (ICT) was brought on-line October 24, 2003 to complement the existing angled extraction well system. Periodic inspection and routine monitoring of the trenches (Trench 1 and Trench 2) was conducted during the reporting period. The inspections include observing fluid levels in the trenches.

The ICT and extraction wells operated normally during the reporting period. The resulting average run-time efficiency throughout the period was 64% in December 2015 and 99% in January 2016.

## **Summary of Findings**

### **Interim Measures - Bio-Slurping and ICT System**

The IM bio slurping and ICT system began operation on September 4, 1997. No product was recovered during December 2015 and January 2016. The volume of product recovered from the IM Bio slurping and ICT system to date, 10,594.09 gallons, is shown in Table 1. The product volume includes product recovered from the oil/water separator. Water recovered by the oil skimmer with the NAPL is decanted from the product recovery drums back into the oil/water separator on a daily basis.

### **Interim Measures - Passive Recovery**

MW-1 was routinely monitored during the entire reporting period for the presence of product. As stated in previous reports, monitoring well MW-6, and the passive recovery system contained within, was destroyed by Preferred Real Estate contractors on or about September 7, 2004. The volume of product recovered from the passive recovery system, 250.57 gallons, is shown in Table 1.

### **Interim Measures - Recovered Product**

Table 1 summarizes product recovery to date. The product recovered by Clean Ventures is mixed with water, making the volume of product difficult to quantify. The volume of water/product mixture is



reported in the Status of Activities section above. The volume of product recovered from the oil/water separator during the reporting period is reported in the Product Recovery table below.

**Table 1. Product Recovery Totals**

Source	Product Recovered during Period (gal.)	Cumulative Product Recovered (gal.)
Bio-Slurping System	0	10,594.09
Passive Recovery (MW-1 and MW-14)	0	250.57
Total	0	10,844.66

Monitoring well MW-6 was destroyed in September 2004 and is no longer part of passive product recovery efforts.

### Summary of Changes Made

A berm was constructed around the treatment area by Sweeney Construction, a contractor for the Buccini Pollin Group (BPG), the site owner/developer in late April 2011. The berm is intended to divert stormwater from the parking lot away from the treatment area.

A temporary effluent treatment system was installed and started on September 28, 2009. The temporary effluent treatment system was taken offline on November 9, 2015 and was replaced with a new permanent effluent treatment system, which began operation on November 30, 2015.

### Summary of Contacts Made with Community/Regulatory Agencies

- Regular contact maintained with the Buccini Pollin Group (BPG), the site owner/developer, and their consultant Weston Solutions, Inc. regarding overall site redevelopment.
- The facility is currently operated in accordance with Wastewater Discharge Permit No. 1DE 01-06 for Exelon Generation effective January 1, 2015 through December 31, 2018.

### Summary of Actual/Potential Problems

- Troubleshooting during startup and commissioning of the new permanent effluent treatment system occurred during the month of December.

### Actions Taken to Rectify Problems

- A new hour meter was installed on December 10, 2015.
- The pressure switch configuration on the bag filters of the new system was adjusted on December 19.
- The setting on the transfer pump was corrected on December 28.

### Personnel Changes

- Jack Murosko, P.G., Senior Program Manager, will be taking over as the primary site contact for Exelon Power in place of Cheri Niemeyer-Peifer.

### Projected Work for the Next Reporting Period

- Clean Ventures will perform product removal as necessary.
- Seep observations will continue to be made during each site visit. Routine inspections of MW-1 will continue. Similar inspections of the trenches (Trench 1 and Trench 2) will continue during the next reporting period.
- Routine observations of the ICT will be conducted in order to monitor performance of the ICT as well as its effect on overall system performance.
- Observations of river for sheen presence.



- Monitor site development activities and potential impacts on remediation system performance including the presence of sheen on the Delaware River.

### **Copies of Reports/Data**

Table 1 summarizes groundwater data collected during this reporting period for Interim Measures, including water level measurements and seep inspection records. Table 2 is a record of daily readings made by the site operator regarding the groundwater treatment system.



Date	Time	Tide Level	Flow Rate	Seep 1a	Seep 1b	Seep 2	Seep 3a	Seep 3b	Seep 4	Sewer	River	Other	T1	T2
12/4/15	13:05	M	45	N	N	N	N	N	N	N	N	N	N	N
12/7/15	16:30	M	45	N	N	N	N	N	N	N	N	N	N	N
12/8/15	17:00	L	48	N	N	N	N	N	N	N	N	N	N	N
12/9/15	16:15	L	40	N	N	N	N	N	N	N	N	N	N	N
12/10/15	12:00	M	40	N	N	N	N	N	N	N	N	N	N	N
12/11/15	13:30	H	38	N	N	N	N	N	N	N	N	N	N	N
12/14/15	15:30	H	35	N	N	N	N	N	N	N	N	N	N	N
12/15/15	7:00	M	35	N	N	N	N	N	N	N	N	N	N	N
12/16/15	9:30	L	35	N	N	N	N	N	N	N	N	N	N	N
12/18/15	16:00	L	32	N	N	N	N	N	N	N	N	N	N	N
12/21/15	8:00	M	25	N	N	N	N	N	N	N	N	N	N	N
12/23/15	16:30	H	35	N	N	N	N	N	N	N	N	N	N	N
12/28/15	17:00	M	35	N	N	N	N	N	N	N	N	N	N	N
12/30/15	14:30	M	38	N	N	N	N	N	N	N	N	N	N	N
12/31/15	14:00	L	45	N	N	N	N	N	N	N	N	N	N	N
1/4/16	8:00	L	18.2	N	N	N	N	N	N	N	N	N	N	N
1/5/16	8:00	L	22.3	N	N	N	N	N	N	N	N	N	N	N
1/6/16	9:00	H	38.0	N	N	N	N	N	N	N	N	N	N	N
1/8/16	11:30	H	45.0	N	N	N	N	N	N	N	N	N	N	N
1/13/16	9:30	L	45.0	N	N	N	N	N	N	N	N	N	N	N
1/15/16	13:30	M	35.0	N	N	N	N	N	N	N	N	N	N	N
1/18/16	11:30	L	23.9	N	N	N	N	N	N	N	N	N	N	N
1/20/16	13:00	M	39.0	N	N	N	N	N	N	N	N	N	N	N
1/22/16	13:30	H	32.0	N	N	N	N	N	N	N	N	N	N	N
1/25/16	12:00	L-M	23.8	N	N	N	N	N	N	N	N	N	N	N
1/26/16	6:30	L-M	21.6	N	N	N	N	N	N	N	N	N	N	N
1/27/16	6:30	L-M	25.8	N	N	N	N	N	N	N	N	N	N	N

**General Notes (Applicable for Table 1 and Table 2):**

1. Background and riverbank piezometers (G-2A, G-2C, G-3A, G-7B, G-7C, G-8, G-9B, G-10, G-13, G-16, and G-19) were decommissioned in December 2002.
2. The interceptor/collection trench was brought online on October 23, 2003.
3. Flow rate is the pretreatment system discharge flow rate to sewer in gallons per minute (gpm).
4. Seep areas along shoreline were covered by rip-rap as of January 17, 2003. Sheen observations, when observed, are adjacent to seep areas along river or sand flats.
5. Water depth measurements in collection trench manholes T1 and T2 are from the top of the manhole casing in feet (ft). Reference elevations: T1 = 6.99 ft, msl and T2 = 7.09 ft, msl.
6. Manhole T1 was raised 2 feet on January 14, 2008. Manhole T2 was raised 1 foot on January 15, 2008. Product level measurements are in inches from top of manhole to product.
7. Days with no measurement are not shown (Table 1) or denoted with NM, indicating no measurement (Table 2).
8. For tide level measurement column, 'L' indicates low tide, 'M' indicates medium tide, and 'H' indicates high tide.
9. T1 and T2 measurements taken after trenches have been pumped out (i.e. at the end of the operator's shift).

**Seep Observation Note Key:**

- S = Sheen present at seep area  
P = Product present at seep area  
N = No sheen or product present at seep area  
F = Direct discharge (of product) observed from CSO



Table 2. Groundwater Remediation System Monitoring Data

Date	Time	Run Time Meter (hours)	Elapsed Time (hours)	Totalizer Reading (gallons)	Discharge Flow (gallons)	Discharge Flow (gpm)	Notes	Product Level (ft. in drum)	KO Tank Vac. (in. Hg.)	Tide Level	Seep Obs.	Product Level (gallons in drum)
12/1	13:30	NM	NM	3,527,035	4,299	NM		NM	NM	NM	NM	NM
12/2	NM	NM	NM	NM	4,299	NM		NM	NM	NM	NM	NM
12/3	NM	NM	NM	NM	4,299	NM		NM	NM	NM	NM	NM
12/4	13:05	NM	NM	3,539,933	1,823	45	System shutdown briefly for bag filter valve installation.	2.5	15	M	N	52
12/5	NM	NM	NM	NM	1,823	NM		NM	NM	NM	NM	NM
12/6	NM	NM	NM	NM	0	NM	System down over weekend due to high level in transfer tank; flow totals indicate system shut down 12/5 1700.	NM	NM	NM	NM	NM
12/7	16:30	NM	NM	3,543,579	408	45	Estimate system down 12/7 @11 PM.	2.5	16	M	N	52
12/8	17:00	NM	NM	3,543,987	6,755	48		2.5	15	L	N	52
12/9	16:15	NM	NM	3,550,742	731	40		2.5	17	L	N	52
12/10	12:00	0.0	4.5	3,551,473	1,068	40	Hour meter installed.	2.5	15	M	N	52
12/11	13:30	4.5	2.4	3,552,541	1,161	38		2.5	17	H	N	52
12/12	NM	NM		NM	0	NM	System down over weekend due to high level in transfer tank.	NM	NM	NM	NM	NM
12/13	NM	NM		NM	0	NM	System down over weekend due to high level in transfer tank.	NM	NM	NM	NM	NM
12/14	15:30	11.7	17.1	3,553,702	2,370	35		2.5	15	H	N	52
12/15	7:00	28.8	23.9	3,556,072	3,759	35		2.5	15	M	N	52
12/16	9:30	52.7	27.0	3,559,831	6,620	35		2.5	15	L	N	52
12/17	NM	NM	27.0	NM	6,620	NM		NM	NM	NM	NM	NM
12/18	16:00	106.7	1.4	3,573,071	3,885	32		2.5	15	L	N	52
12/19	NM	NM	1.4	NM	3,885	NM	Aquaterra on site to adjust pressure switch configuration.	NM	NM	NM	NM	NM
12/20	NM	NM	1.4	NM	3,885	NM		NM	NM	NM	NM	NM
12/21	8:00	111.0	55.7	3,584,727	6,389	25		2.5		M	N	52
12/22	NM	NM	55.7	NM	6,389	NM		NM	NM	NM	NM	NM
12/23	16:30	222.4	0.8	3,597,504	1,218	35		2.5	17	H	N	52
12/24	NM	NM	0.8	NM	0	NM	System down due to transfer pump setting.	NM	NM	NM	NM	NM
12/25	NM	NM	0.8	NM	0	NM	System down due to transfer pump setting.	NM	NM	NM	NM	NM
12/26	NM	NM	0.8	NM	0	NM	System down due to transfer pump setting.	NM	NM	NM	NM	NM
12/27	NM	NM	0.8	NM	0	NM	System down due to transfer pump setting.	NM	NM	NM	NM	NM
12/28	17:00	226.3	0.8	3,598,722	5,903	35		2.5	17	M	N	52
12/29	NM	NM	NM	NM	5,903	NM		NM	NM	NM	NM	NM
12/30	14:30	272.0	24.7	3,610,527	13,437	38		2.5	17	M	N	52
12/31	14:00	296.7	22.8	3,623,964	3,123	45		2.5	17	L	N	52
1/1	NM	NM	22.8	NM	3,123	NM		NM	NM	NM	NM	NM
1/2	NM	NM	22.8	NM	3,123	NM		NM	NM	NM	NM	NM
1/3	NM	NM	22.8	NM	3,123	NM		NM	NM	NM	NM	NM
1/4	8:00	388	24.0	3,636,455	3,985	18.2	Ran trench vault for 7 hours; changed bag filters.	2.5	17	L	N	52
1/5	8:00	412	25.0	3,640,440	12,407	22.3	Ran trench vault for 4 hours; changed bag filters.	2.5	17	L	N	52
1/6	9:00	437	24.3	3,652,847	3,329	38.0	Ran trench vault for 5 hours; changed bag filters; backwashed lead carbon unit.	2.5	17	H	N	52
1/7	NM	NM	24.3	NM	3,329	NM		NM	NM	NM	NM	NM
1/8	11:30	485.5	23.6	3,659,504	741	45.0	Ran trench vault for 1.5 hours.	2.5	17	H	N	52

Table 2. Groundwater Remediation System Monitoring Data

Date	Time	Run Time Meter (hours)	Elapsed Time (hours)	Totalizer Reading (gallons)	Discharge Flow (gallons)	Discharge Flow (gpm)	Notes	Product Level (ft. in drum)	KO Tank Vac. (in. Hg.)	Tide Level	Seep Obs.	Product Level (gallons in drum)
1/9	NM	NM	23.6	NM	741	NM		NM	NM	NM	NM	NM
1/10	NM	NM	23.6	NM	741	NM		NM	NM	NM	NM	NM
1/11	NM	NM	23.6	NM	741	NM		NM	NM	NM	NM	NM
1/12	NM	NM	23.6	NM	741	NM		NM	NM	NM	NM	NM
1/13	9:30	603.3	26.1	3,663,211	4,392	45.0	Monthly compliance sample collected; pH = 6.77 (ordered new pH probe due to issues with calibration); changed bag filters; ran trench for 2 hours.	2.5	17	L	N	52
1/14	NM	NM	26.1	NM	4,392	NM		NM	NM	NM	NM	NM
1/15	13:30	655.5	23.9	3,671,995	2,830	35.0	Ran trench for 7 hours; changed bag filters; backwashed lead carbon unit.	2.5	17	M	N	52
1/16	NM	NM	23.9	NM	2,830	NM		NM	NM	NM	NM	NM
1/17	NM	NM	23.9	NM	2,830	NM		NM	NM	NM	NM	NM
1/18	11:30	727.2	23.4	3,680,485	5,122	23.9	Ran trench for 6 hours.	2.5	17	L	N	52
1/19	NM	NM	23.4	NM	5,122	NM		NM	NM	NM	NM	NM
1/20	13:00	773.9	23.1	3,690,729	2,598	39.0	Ran trench for 3 hours; changed 6 bag filters; system down for 2 hours during maintenance (removed and clean knockout tank high level switch; removed and cleaned the vacuum line check valve).	2.5	17	M	N	52
1/21	NM	NM	23.1	NM	2,598	NM		NM	NM	NM	NM	NM
1/22	13:30	820.0	24.6	3,695,925	2,876	32.0	Ran trench for 3 hours; prepared system for Winter Storm Jonas (sealed air vents, prepared bag filters for extended runtime, in parallel instead of series).	2.5	16	H	N	52
1/23	NM	NM	24.6	NM	2,876	NM	~ 23.5 inches of snowfall due to Winter Storm Jonas	NM	NM	NM	NM	NM
1/24	NM	NM	24.6	NM	2,876	NM		NM	NM	NM	NM	NM
1/25	12:00	893.7	21.8	3,704,554	2,980	23.8	Ran trench for 6 hours; bag filters running in parallel.	2.5	16	L-M	N	52
1/26	6:30	915.5	20.5	3,707,534	5,748	21.6	Ran trench for 6 hours; bag filters running in parallel.	2.5	14	L-M	N	52
1/27	6:30	936.0	23.6	3,713,282	4,840	25.8	Ran trench for 6 hours; bag filters running in parallel; replaced bag filters.	2.5	14	L-M	N	52
1/28	NM	NM	23.6	NM	4,840	NM		NM	NM	NM	NM	NM
1/29	NM	NM	23.6	NM	4,840	NM		NM	NM	NM	NM	NM
1/30	NM	NM	23.6	NM	4,840	NM		NM	NM	NM	NM	NM
1/31	NM	NM	23.6	NM	4,840	NM		NM	NM	NM	NM	NM



Date	Time	Run Time Meter (hours)	Elapsed Time (hours)	Totalizer Reading (gallons)	Discharge Flow (gallons)	Discharge Flow (gpm)	Notes	Product Level (ft. in drum)	KO Tank Vac. (in. Hg.)	Tide Level	Seep Obs.	Product Level (gallons in drum)
2/1/2016	6:30	1,054	22.3	3,737,482	7,045	34	Ran trench for 6 hours; changed bag filters on Series A.	2.5	15	L	N	52
2/2/2016	7:45	1,076	26.7	3,744,527	9,184	-	Ran trench for 6 hours; changed bag filters on Series B and C.	-	15	-	-	-
2/3/2016	14:30	1,103	24.1	3,753,711	2,945	32.7	Ran trench for 4 hours.	2.5	15	M	N	52
2/5/2016	14:30	1,151	24.9	3,759,600	2,502	46.1	Changed bag filters on Series A, B, and C.	2.5	15	R	N	52
2/8/2016	-	-	24.9	-	2,502	-	Clean Ventures on-site to pick up six (6) drums of spent bag filters and drop off six (6) empty drums; racoon observed in one of the storage units located outside.	-	-	-	-	-
2/10/2016	15:30	1,276	13.4	3,772,111	3,130	25.5	Ran trench for 4.5 hours; sprayed "Criter Ridder" in all storage sheds to repel the racoon.	2.5	15	L	N	52
2/11/2016	9:00	1,289.40	26.7	3,775,241	6,182	20.1	Monthly sample collected; sample pH 7.6. pH calibration: 7.3-7, 4.3-4, 9.9-10.	2.5	15	M/L	N	52
2/12/2016	12:00	1,316.10	20.7	3,781,423	3,565	28.4	Ran trench for 3 hours; changed bag filters on Series A, B, and C.	2.5	15	M	N	52
2/15/2016	-	-	20.7	-	3,565	-	System shutdown during mid-day.	-	-	-	-	-
2/16/2016	-	-	-	-	0	-	System shutdown.	-	-	-	-	-
2/17/2016	12:00	1,398.70	25.4	3,795,681	3,440	40.1	System down on arrival due to high level alarm in the transfer tanks, caused by clogged bag filters; changed bag filters on Series A, B, and C. Backwashed lead GAC unit. Ran trench for 2.5 hours. Estimated shutdown on Monday 2/15 at ~3PM.	2.5	15	H	N	52
2/18/2016	14:00	1,424.10	23.5	3,799,121	2,700	40.3	Ran trench for 2 hours.	2.5	15	H	N	52
2/19/2016	13:30	1,447.60	23.9	3,801,821	4,475	40.7	Changed Series A bag filters; changed vacuum pump oil.	2.5	15	M	N	52
2/23/2016	13:30	1,543.10	17.9	3,819,721	9,536	32.7	Changed Series A and Series C bag filters; ran trench for 2.5 hours.	2.5	15	L	N	52
2/24/2016	8:00	1,561.00	27.8	3,829,257	2,762	42	Ran trench for 7 hours.	2.5	16	M	N	52
2/25/2016	-	-	27.8	-	2,762	-	-	-	-	-	-	-
2/26/2016	14:30	1,616.50	21.8	3,834,781	7,103	38	Series A bag filters changed.	2.5	15	H	N	52
2/29/2016	8:30	1,682.00	23.7	3,856,091	3,906	38	Changed bag filters on Series A, B, and C; ran trench for 8 hours.	2.5	17	L	N	52
3/1/2016	8:00	1,705.7	23.6	3,859,997	7,235	30	Ran trench for 7 hours; changed bag filters.	2.5	17	L	N	52
3/2/2016	8:00	1,729.3	22.2	3,867,232	5,495	26.6	Ran trench for 7 hours; changed bag filters.	2.5	18	L	N	52
3/4/2016	8:30	1,773.7	25.6	3,878,221	7,503	40.1	Ran trench for 8 hours; backwashed lead GAC unit.	2.5	16	M	N	52
3/7/2016	8:25	1,850.5	25.3	3,900,730	6,402	44	Ran trench for 7 hours; changed bag filters.	2.5	17	H	N	52
3/8/2016	8:21	1,871.0	29.0	3,907,132	12,790	30	Ran trench for 7 hours; changed bag filters.	2.5	17	H	N	52
3/9/2016	12:30	1,900.0	18.3	3,919,922	3,955	39	Ran trench for 2.5 hours; changed bag filters on Series A. Effluent sample collected; pH = 7.2.	2.5	17	H	N	52
3/10/2016	8:00	1,918.3	24.8	3,923,877	6,162	34	Ran trench for 7.5 hours; changed bag filters on Series C; product observed in T-2.	2.5	17	L	N	52
3/15/2016	13:00	2,042.5	22.3	3,954,685	4,183	32	Changed bag filters on Series A; backwashed lead GAC unit.	2.5	16	M	N	52
3/18/2016	8:00	2,109.4	24.0	3,967,233	3,128	42	Ran trench for 2.5 hours; changed bag filters on Series B and C; backwashed lead GAC vessel.	2.5	16	H	N	52
3/21/2016	8:30	2,181.4	23.8	3,976,618	3,807	35	Changed bag filters on Series A, B, and C; ran product skimmer on OWS.	2.5	15	M	N	52
3/23/2016	7:30	2,228.9	24.4	3,984,231	3,292	35	Clean Ventures on-site to vacuum product from the T-2 vault (43 gallons), DNAPL from the former OWS (100 gallons), product stored in a drum from the former OWS (52 gallons), solids and NAPL from the new OWS.	0.0	17	L	N	0
3/25/2016	9:00	2,277.7	23.7	3,990,814	3,606	30	Backwashed lead GAC unit.	0.0	17	L	N	0
3/28/2016	8:00	2,348.7	24.7	4,001,632	2,850	30	Changed bag filters on Series A, B, and C; ran trench for 6 hours.	0.0	17	M	N	0
3/30/2016	8:30	2,398.0	23.8	4,007,331	2,031	32	-	0.0	17	M	N	0
4/1/2016	8:00	2,445.6	-	4,011,393	-	35	Changed bag filters on Series B, and C; troubleshoot Series A actuator valve; ran trench for 5 hours.	0.0	17	H	N	0

See Notes on Table 2

Brown and Caldwell

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Jack Murosko, P.G.  
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**FedEx Tracking Number: 7785 1941 1603**

February 27, 2017

U.S. Environmental Protection Agency  
Region III (3WC22)  
1650 Arch Street  
Philadelphia, PA 19103-2029

Attn: Mr. Khai Dao

Subject: Chem-Clear, Inc. Facility, Chester, PA  
RCRA §3008(h) Corrective Action Consent Order  
U.S. EPA Docket No.: RCRA-3-064CA

Dear Khai:

In accordance with the above referenced final consent order, Section G(24), we are submitting four (4) copies of the bimonthly progress report for the reporting period of December 1, 2016 through January 31, 2017. If you have any questions or require additional information, please feel free to contact me at 410-470-0238 or via e-mail at [john.murosko@exeloncorp.com](mailto:john.murosko@exeloncorp.com).

Sincerely,

A handwritten signature in black ink, appearing to read "J. Murosko", written over a horizontal line.

Jack Murosko, P.G.  
Project Manager  
Environmental Programs

Enclosure

cc: Sara Pantelidou, P.G., PADEP  
FedEx Tracking Number: 7785 1937 1124



# Bi-Monthly Progress Report for the Exelon Generation (Formerly PECO) RCRA Corrective Action Project

Chem Clear Inc. Facility, Chester, Pennsylvania

Reporting Period: December 1, 2016 through January 31, 2017

## Status of Plan/Report Preparation

The interim measure (IM) bio slurping system began operation on September 4, 1997. The RCRA Facility Investigation (RFI) Phase III Report was approved by the USEPA on June 25, 1999. The Corrective Measure Study (CMS) requirement of the Consent Order is being fulfilled through the Pennsylvania Act 2 process for the broader Chester Waterfront Redevelopment Project Site, of which the Chem Clear Site is included. The Chester Waterfront Remedial Investigation/Risk Assessment/Remedial Alternatives Assessment (RI/RA/RAA) Report was submitted to the USEPA on March 23, 2000 and to PADEP on June 13, 2000. PADEP approved the RI/RA/RAA in their letter dated September 11, 2000. A Groundwater Monitoring Plan was submitted to USEPA in October 2002, which was later approved, that included collecting/evaluating two years of groundwater quality data from the Chem Clear Site. The final Quarterly Monitoring Report associated with that Groundwater Monitoring Plan was submitted to PADEP and USEPA in October 2005. In a letter dated March 22, 2001, USEPA approved the RI/RA/RAA Report as the equivalent of the CMS Final Report. The Act 2 Final Report for the Chester Waterfront Site was submitted to PADEP in December 2003 and approved via their April 29, 2004 letter. A berm was constructed around the treatment area by Sweeney Construction, a contractor for the Buccini Pollin Group (BPG), the site owner/developer in late April 2011. The berm is intended to divert stormwater from the parking lot away from the treatment area. A temporary effluent treatment system was installed and started on September 28, 2009. The temporary effluent treatment system was taken offline on November 9, 2015 and was replaced with a new effluent treatment system, which began operation on November 30, 2015. The Site is currently attended by an operator 2-3 days per week as opposed to daily during operation of the temporary treatment system due to improved system runtime efficiency with the replacement system.

## Status of System

### Interim Measures - Bio-Slurping System

The Groundwater Interceptor/Collection Trench (ICT) was brought on-line October 24, 2003 to complement the existing angled extraction well system. Periodic inspection and routine monitoring of the two trenches, Trench 1 (T-1), and Trench 2 (T-2) was conducted during the reporting period. The inspections include observing fluid levels in the trenches.

The ICT and extraction wells operated normally during the reporting period. The resulting average runtime efficiency throughout the period was 84% in December 2016 and 78% in January 2017.

## Summary of Activities

### Interim Measures - Bio-Slurping and ICT System

The volume of product recovered from the IM Bio slurping and ICT system to date, 11,544.66 gallons, is shown in Table 1. The product volume includes product recovered from the oil/water separator (OWS) by the oil skimmer and product vacuumed from the trench sump vaults. Water recovered by the oil skimmer with the NAPL is decanted from the product recovery drums back into the OWS during system visits. From December 5<sup>th</sup> through 7<sup>th</sup>, approximately 70 gallons of light non-aqueous phase liquid (LNAPL) was recovered from trench sump vault T-2.



### Interim Measures - Recovered Product

Table 1 summarizes product recovery to date. The fluid recovered from OWS and trench by Clean Ventures includes water, making the volume of product difficult to quantify. The volume of product recovered from the oil/water separator (55-gallon drum) and vacuumed from the trench sump vaults during the reporting period is reported in the Product Recovery table below.

**Table 1. Product Recovery Totals**

Source	Product Recovered during Period (gal.)	Cumulative Product Recovered (gal.)
Bio-Slurping System (55-gallon drum)	0	10,646.09
Trench Vaults and OWS	70	648
Passive Recovery (MW-1 and MW-14)	0	250.57
Total	70	11,544.66

*The quantities of product recovered are estimates. Monitoring well MW-6, and the passive recovery system (i.e. passive bailer) contained within, was destroyed by Preferred Real Estate contractors on or about September 7, 2004. The product recovered directly from the trench sump vaults and OWS began to be presented separately from the amount recovered from the bio-slurping system beginning in the April 1 through May 31, 2016 Bi-Monthly Progress Report. The 70 gallons recovered during the current period was recovered directly from the trench sump vault T-2 with a vacuum truck.*

### Summary of Changes Made

No changes were made during the current reporting period.

### Summary of Contacts Made with Community/Regulatory Agencies

- Periodic contact as needed with the Buccini Pollin Group (BPG), the site owner/developer, and their consultant Weston Solutions, Inc. regarding overall site redevelopment.
- The facility is currently operated in accordance with the Delaware County Regional Water Authority (DELCORA) Wastewater Discharge Permit No. 1DE 01-06 for Exelon Generation effective January 1, 2015 through December 31, 2018. Discharge Monitoring Reports (DMRs) are submitted monthly.

### Summary of Actual/Potential Problems

- On December 1, the system was shut down due to a high transfer tank alarm.
- On December 13, 14, and 15, the system was shut down due to a high OWS alarm.
- On December 17 and 18, the system was shut down due to a high air/water separator (AWS) alarm.
- On December 20 and 21, the system was shut down due to a high OWS alarm.
- On January 10, the system was shutdown to allow for change out of the lag liquid phase carbon (LGAC) vessel. The lead LGAC vessel had not drained properly prior to the scheduled change out due to a buildup of solids and could not be changed.
- On January 25, the system was shut down due to a leak in the progressive cavity pump (PCP).
- On January 28 and 29, the system was shut down due to a high level alarm in the OWS.

### Actions Taken to Rectify Problems

- On December 2, the system was restarted.
- On December 16, the system was restarted and the series A bag filters were changed.
- On December 19, the system was restarted and the series A, B, and C bag filters were changed.
- On December 22, the system was restarted and the series B and C bag filters were changed. Transfer pump #1B was shut down and the variable frequency drive (VFD) on the PCP was adjusted. On December 27, the AWS site glass and OWS floats were cleaned.



- On January 13, a carbon change out was conducted on the lead LGAC vessel, the lead and lag vessels were allowed to hydrate, and the system was restarted on January 16.
- On January 27, the PCP leak was fully repaired.
- On January 30, both transfer pumps (#1A and #1B) were turned on to increase processing through the OWS, since only one transfer pump had been operating since December 22.

### Personnel Changes

- The primary system operator during this period was changed from Chris Hjembo to Andrew Weinstein.

### Projected Work for the Next Reporting Period

- Clean Ventures will perform product removal as necessary.
- A monthly vault pumping/LNAPL recovery event is scheduled for early February 2017.
- Seep observations will continue to be made during each site visit. Routine inspections of MW-1 and MW-14 will continue. Similar inspections of the trenches (T-1 and T-2) will continue during the next reporting period.
- Routine observations of the ICT will be conducted in order to monitor performance of the ICT as well as its effect on overall system performance.
- Observations of river for sheen presence.
- Monitor site development activities and potential impacts on remediation system performance including the presence of sheen on the Delaware River.

### Copies of Reports/Data

Table 2 summarizes groundwater data collected during this reporting period for Interim Measures, including water level measurements and seep inspection records. Table 3 is a record of daily readings made by the site operator regarding the groundwater treatment system.



**Table 2. Groundwater and Shoreline Monitoring Data**

Date	Time	Tide Level	Seep	Sewer	River	Other	T1	T2	MW-1	MW-14
12/2/2016	7:30	H	N	N	N	N	7.72	7.78	10.23	1.66
12/5/2016	7:00	L	N	N	N	N	7.43	7.11	9.5	2.53
12/6/2016	7:00	L	N	N	N	N	7.98	8.04	10.14	2.04
12/7/2016	6:30	L	N	N	N	N	9.75	9.8	9.35	1.53
12/12/2016	7:00	M	N	N	N	N	9.12	9.73	11.29	1.92
12/16/2016	6:45	M	N	N	N	N	9.61	9.81	11.65	2.56
12/19/2016	6:45	L	N	N	N	N	8.75	8.9	10.32	2.09
12/22/2016	12:00	NM	N	N	N	N	8.3	8.44	NM	NM
12/27/2016	7:30	M	N	N	N	N	8	8.2	10.52	2.65
12/30/2016	7:30	M	N	N	N	N	8.05	8	11.5	2.54
1/3/2017	9:00	H	N	N	N	N	8	8.2	11.8	2.15
1/6/2017	7:30	H	N	N	N	N	7.9	7.95	10.55	2.1
1/9/2017	13:45	M	N	N	N	N	NM	NM	NM	NM
1/10/2017	6:45	M	N	N	N	N	NM	NM	NM	NM
1/13/2017	7:00	L	N	N	N	N	6.81	6.7	12.65	2.03
1/16/2017	8:00	M	N	N	N	N	NM	NM	NM	NM
1/17/2017	7:30	M	N	N	N	N	7.39	7.3	10.6	3.72
1/20/2017	7:00	H	N	N	N	N	7	7.15	10.35	2.89
1/23/2017	7:25	M	N	N	N	N	9.25	9	NM	NM
1/24/2017	7:45	M	N	N	N	N	8.6	8.68	NM	2.5
1/25/2017	9:45	H	N	N	N	N	NM	NM	NM	NM
1/27/2017	10:30	L	N	N	N	N	NM	NM	NM	NM
1/30/2017	8:00	M	N	N	N	N	NM	NM	NM	NM
1/31/2017	7:15	M	N	N	N	N	9.22	9.35	NM	4.03
2/1/2017	7:00	M	N	N	N	N	11.92	12.15	NM	3.43

**General Notes (Applicable for Table 2 and Table 3):**

1. Background and riverbank piezometers (G-2A, G-2C, G-3A, G-7B, G-7C, G-8, G-9B, G-10, G-13, G-16, and G-19) were decommissioned in December 2002.
2. The interceptor/collection trench was brought online on October 23, 2003.
3. Flow rate is the pretreatment system discharge flow rate to sewer in gallons per minute (gpm).
4. Seep areas along shoreline were covered by rip-rap as of January 17, 2003. Sheen observations, when observed, are adjacent to seep areas along river or sand flats.
5. Water depth measurements in collection trench manholes T1 and T2 are from the top of the manhole casing in feet (ft). Current reference elevations: T1 = 6.99 ft, msl and T2 = 7.09 ft, msl.
6. T1 and T2 measurements taken after trenches have been pumped out (i.e. at the end of the operator's shift).
7. Days with no measurement are not shown (Table 2) or denoted with NM, indicating no measurement (Table 3).
8. Tide level: L - low, M - medium, H - high.
9. Flooded - trench manholes inaccessible due to surface flooding from recent rain event.

**Seep Observation Note Key:**

S = Sheen present at seep area

P = Product present at seep area

N = No sheen or product present at seep area

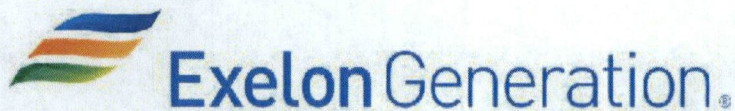
F = Direct discharge (of product) observed from CSO



Table 3. Groundwater Remediation System Monitoring Data

Date	Time	Run Time Meter (hours)	Elapsed Time (hours)	Totalizer Reading (gallons)	Discharge Flow (gallons)	Discharge Flow (gpm)	Notes	Product Level (ft. in drum)	KO Tank Vac. (in. Hg.)	Product Level (gallons in drum)
12/2/2016	7:30	7,630.6	23.6	4,807,530	3,885	19.6	Restarted system and pumped trench 2 (T2) to prepare for vacuum services scheduled 12/7.	0	18	0
12/5/2016	7:00	7,701.4	21.8	4,819,185	3,629	16.7	Changed series A, B, and C bag filters. Pumped T2 to prepare for vacuum services scheduled 12/7. Left T2 pumping overnight.	0	17	0
12/6/2016	7:00	7,723.2	22.3	4,822,814	7,396	20.2	Changed series A and B bag filters. Pumped T2 to prepare for vacuum services scheduled 12/7 and pumped T2 overnight.	0	18	0
12/7/2016	6:30	7,745.5	21.4	4,830,210	4,959	22	Changed series A and C bag filters. High tide early morning and recedes throughout the day, incoming mid-afternoon. Approximately 70 gallons of product recovered by vacuum truck from T2.	0	19	0
12/12/2016	7:00	7,852.4	4.9	4,855,004	1,490	15.8	Changed series A, B, and C bag filters. System down due to Oil/Water Separator (OWS) high alarm. Filter change at vacuum pump intake.	0	20	0
12/16/2016	6:45	7,857.3	6.7	4,856,494	1,942	16.4	Changed series A bag filter.	0	18	0
12/19/2016	6:45	7,864.0	3	4,858,436	1,093	14.5	Changed series A, B, and C bag filters.	0	17	0
12/22/2016	12:00	7,867.0	23	4,859,529	4,765	14.3	Changed series B and C bag filters.	0	17	0
12/27/2016	7:30	7,982.0	20.7	4,883,354	5,172	12.2	Changed series A, B, and C bag filters. Backwashed lead GAC. Cleaned AWS site glass and OWS floats. Transfer pump #1A is currently manually operated while onsite.	0	17	0
12/30/2016	7:30	8,044.0	25	4,898,871	5,237	20	Changed series C bag filter.	0	17	0
1/3/2017	9:00	8,144.0	22.6	4,919,817	4,501	13	Changed series A and B bag filters.	0	17	0
1/6/2017	7:30	8,211.7	24.7	4,933,321	1,327	9.1	Changed series B and C bag filters.	0	20	0
1/9/2017	13:45	8,285.9	1.8	4,937,301	85	0	The system was shut down and the LGAC units were left to drain in preparation for the carbon change out on 1/10/17.	0	16	0
1/10/2017	6:45	NM	0	NM	0	NM	Changed series A, B, and C bag filters. On arrival, the lead vessel had not drained, due to a buildup of solids. Therefore, the carbon change out was conducted on the lag vessel, and rescheduled for 1/13/17 on the lead vessel.	0	NM	0
1/13/2017	7:00	NM	0	NM	0	NM	The system has been off since 1/9/17 for the carbon change out, which was conducted on 1/10 for the lag vessel and today for the lead LGAC vessel. System was shutdown to allow the LGAC to hydrate for at least 24 hours.	0	NM	0
1/16/2017	8:00	8,287.7	17.8	4,937,386	2879	NM	Replaced LGAC vessel lids and restarted system.	0	17	0
1/17/2017	7:30	8,305.5	21.8	4,940,265	5,244	7.8	Changed series A, B, and C bag filters. Monthly effluent sample collected.	0	17	0
1/20/2017	7:00	8,371.0	23.6	4,955,996	4,790	17.4	Changed series A and B bag filters.	0	18	0
1/23/2017	7:25	8,441.7	21.4	4,970,365	8,018	1	Changed series A, B, and C bag filters. The progressive cavity pump (PCP) was found leaking out of the pump outlet due to a crack.	0	NM	0
1/24/2017	7:45	8,463.1	1.7	4,978,383	2,204	13	Changed series A, B, and C bag filters. The system was shutdown due to the leak in the PCP, which had worsened, and replacement parts were ordered.	0	15	0
1/25/2017	9:45	NM	0	NM	0	NM	Repair of the PCP was initiated.	0	NM	0
1/27/2017	10:30	8,464.8	0.8	4,980,587	674	NM	The PCP leak repair was completed.	0	NM	0
1/30/2017	8:00	8,465.6	9	4,981,261	2,424	NM	The system was restarted and transfer pumps #1A and #1B were turned on to improve processing through the OWS.	0	NM	0
1/31/2017	7:15	8,474.6	14.4	4,983,695	10,433	NM	Replaced series A, B, and C bag filters.	0	13	0
2/1/2017	7:00	8489	NM	4,994,128	NM	17.5		0	NM	0
See Notes on Table 2										





**Jack Murosko, P.G.**  
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**FedEx Tracking Number: 7779 7279 1556**

December 16, 2016

U.S. Environmental Protection Agency  
Region III (3WC22)  
1650 Arch Street  
Philadelphia, PA 19103-2029

Attn: Mr. Khai Dao

Subject: Chem-Clear, Inc. Facility, Chester, PA  
RCRA §3008(h) Corrective Action Consent Order  
U.S. EPA Docket No.: RCRA-3-064CA

Dear Khai:

In accordance with the above referenced final consent order, Section G(24), we are submitting four (4) copies of the bimonthly progress report for the reporting period of October 1, 2016 through November 30, 2016. If you have any questions or require additional information, please feel free to contact me at 410-470-0238 or via e-mail at [john.murosko@exeloncorp.com](mailto:john.murosko@exeloncorp.com).

Sincerely,

A handwritten signature in dark ink, appearing to read "J. Murosko", written over a horizontal line.

Jack Murosko, P.G.  
Project Manager  
Environmental Programs

Enclosure

cc: Sara Pantelidou, P.G., PADEP  
FedEx Tracking Number: 7779 7280 5122



# **Bi-Monthly Progress Report for the Exelon Generation (Formerly PECO) RCRA Corrective Action Project**

**Chem Clear Inc. Facility, Chester, Pennsylvania**

**Reporting Period: October 1, 2016 through November 30, 2016**

## **Status of Plan/Report Preparation**

The interim measure (IM) bio slurping system began operation on September 4, 1997. The RCRA Facility Investigation (RFI) Phase III Report was approved by the USEPA on June 25, 1999. The Corrective Measure Study (CMS) requirement of the Consent Order is being fulfilled through the Pennsylvania Act 2 process for the broader Chester Waterfront Redevelopment Project Site, of which the Chem Clear Site is included. The Chester Waterfront Remedial Investigation/Risk Assessment/Remedial Alternatives Assessment (RI/RA/RAA) Report was submitted to the USEPA on March 23, 2000 and to PADEP on June 13, 2000. PADEP approved the RI/RA/RAA in their letter dated September 11, 2000. A Groundwater Monitoring Plan was submitted to USEPA in October 2002, which was later approved, that included collecting/evaluating two years of groundwater quality data from the Chem Clear Site. The final Quarterly Monitoring Report associated with that Groundwater Monitoring Plan was submitted to PADEP and USEPA in October 2005. In a letter dated March 22, 2001, USEPA approved the RI/RA/RAA Report as the equivalent of the CMS Final Report. The Act 2 Final Report for the Chester Waterfront Site was submitted to PADEP in December 2003 and approved via their April 29, 2004 letter. A berm was constructed around the treatment area by Sweeney Construction, a contractor for the Buccini Pollin Group (BPG), the site owner/developer in late April 2011. The berm is intended to divert stormwater from the parking lot away from the treatment area. A temporary effluent treatment system was installed and started on September 28, 2009. The temporary effluent treatment system was taken offline on November 9, 2015 and was replaced with a new effluent treatment system, which began operation on November 30, 2015. The Site is currently attended by an operator 2-3 days per week as opposed to daily during operation of the temporary treatment system due to improved system runtime efficiency with the replacement system.

## **Status of System**

### **Interim Measures - Bio-Slurping System**

The Groundwater Interceptor/Collection Trench (ICT) was brought on-line October 24, 2003 to complement the existing angled extraction well system. Periodic inspection and routine monitoring of the two trenches, Trench 1 (T-1), and Trench 2 (T-2) was conducted during the reporting period. The inspections include observing fluid levels in the trenches.

The ICT and extraction wells operated normally during the reporting period. The resulting average runtime efficiency throughout the period was 91% in October 2016 and 88% in November 2016.

## **Summary of Activities**

### **Interim Measures - Bio-Slurping and ICT System**

The volume of product recovered from the IM Bio slurping and ICT system to date, 11,474.66 gallons, is shown in Table 1. The product volume includes product recovered from the oil/water separator (OWS) by the oil skimmer and product vacuumed from the trench sump vaults. Water recovered by the oil skimmer with the NAPL is decanted from the product recovery drums back into the OWS during system visits. On November 3, approximately 35 gallons of light non-aqueous phase liquid (LNAPL) was recovered from trench sump vault T-1.



### Interim Measures - Recovered Product

Table 1 summarizes product recovery to date. The fluid recovered from OWS and trench by Clean Ventures includes water, making the volume of product difficult to quantify. The volume of product recovered from the oil/water separator (55-gallon drum) and vacuumed from the trench sump vaults during the reporting period is reported in the Product Recovery table below.

**Table 1. Product Recovery Totals**

Source	Product Recovered during Period (gal.)	Cumulative Product Recovered (gal.)
Bio-Slurping System (55-gallon drum)	0	10,646.09
Trench Vaults and OWS	35	578
Passive Recovery (MW-1 and MW-14)	0	250.57
Total	35	11,474.66

*The quantities of product recovered are estimates. Monitoring well MW-6, and the passive recovery system (i.e. passive bailer) contained within, was destroyed by Preferred Real Estate contractors on or about September 7, 2004. The product recovered directly from the trench sump vaults and OWS began to be presented separately from the amount recovered from the bio-slurping system beginning in the April 1 through May 31, 2016 Bi-Monthly Progress Report. The 35 gallons recovered during the current period was recovered directly from the trench sump vault T-1 with a vacuum truck.*

### Summary of Changes Made

No changes were made during the current reporting period.

### Summary of Contacts Made with Community/Regulatory Agencies

- Periodic contact as needed with the Buccini Pollin Group (BPG), the site owner/developer, and their consultant Weston Solutions, Inc. regarding overall site redevelopment.
- The facility is currently operated in accordance with the Delaware County Regional Water Authority (DELCORA) Wastewater Discharge Permit No. 1DE 01-06 for Exelon Generation effective January 1, 2015 through December 31, 2018. Discharge Monitoring Reports (DMRs) are submitted monthly.

### Summary of Actual/Potential Problems

- On November 30, the system shutdown due to a high transfer alarm.

### Actions Taken to Rectify Problems

- On December 2, the system was restarted.

### Personnel Changes

- The system operator during this period was changed from Josh Muckelston to Chris Hjembo.

### Projected Work for the Next Reporting Period

- Clean Ventures will perform product removal as necessary.
- A monthly vault pumping/LNAPL recovery event is tentatively scheduled for early December 2016.
- Seep observations will continue to be made during each site visit. Routine inspections of MW-1 and MW-14 will continue. Similar inspections of the trenches (T-1 and T-2) will continue during the next reporting period.
- Routine observations of the ICT will be conducted in order to monitor performance of the ICT as well as its effect on overall system performance.
- Observations of river for sheen presence.



- Monitor site development activities and potential impacts on remediation system performance including the presence of sheen on the Delaware River.

### **Copies of Reports/Data**

Table 2 summarizes groundwater data collected during this reporting period for Interim Measures, including water level measurements and seep inspection records. Table 3 is a record of daily readings made by the site operator regarding the groundwater treatment system.



**Table 2. Groundwater and Shoreline Monitoring Data**

Date	Time	Tide Level	Seep	Sewer	River	Other	T1	T2	MW-1	MW-14
10/3/2016	12:00	M	N	N	N	N	6.84	6.92	12.79	4.49
10/6/2016	12:00	M	N	N	N	N	6.79	6.80	13.01	5.04
10/10/2016	9:00	L	N	N	N	N	6.21	6.29	13.42	5.01
10/14/2016	12:30	M	N	N	N	N	6.11	6.17	12.72	4.07
10/18/2016	7:00	L	N	N	N	N	5.81	6.00	11.07	5.04
10/20/2016	10:00	M	N	N	N	N	NM	NM	NM	NM
10/25/2016	12:00	H	N	N	N	N	5.77	5.79	10.99	4.79
10/28/2016	12:00	L	N	N	N	N	6.13	6.27	11.73	2.99
11/1/2016	10:00	H	N	N	N	N	6.1	7.85	NM	NM
11/2/2016	7:10	H	N	N	N	N	NM	8.09	NM	NM
11/3/2016	7:45	H	N	N	N	N	10.34	10.38	NM	NM
11/10/2016	NM	H	N	N	N	N	6.1	7.85	NM	NM
11/11/2016	7:45	L	N	N	N	N	8.23	8.11	9.85	3.83
11/15/2016	13:00	H	N	N	N	N	NM	NM	NM	NM
11/21/2016	10:30	L	N	N	N	N	7.5	7.76	9.44	5.58
11/22/2016	9:00	L	N	N	N	N	NM	NM	NM	NM
11/28/2016	6:30	L	N	N	N	N	7.36	7	9.58	7.05
11/29/2016	6:30	L	N	N	N	N	NM	NM	NM	NM
12/2/2016	7:30	NM	N	N	N	N	7.72	7.78	10.23	1.66

**General Notes (Applicable for Table 2 and Table 3):**

1. Background and riverbank piezometers (G-2A, G-2C, G-3A, G-7B, G-7C, G-8, G-9B, G-10, G-13, G-16, and G-19) were decommissioned in December 2002.
2. The interceptor/collection trench was brought online on October 23, 2003.
3. Flow rate is the pretreatment system discharge flow rate to sewer in gallons per minute (gpm).
4. Seep areas along shoreline were covered by rip-rap as of January 17, 2003. Sheen observations, when observed, are adjacent to seep areas along river or sand flats.
5. Water depth measurements in collection trench manholes T1 and T2 are from the top of the manhole casing in feet (ft). Current reference elevations: T1 = 6.99 ft, msl and T2 = 7.09 ft, msl.
6. T1 and T2 measurements taken after trenches have been pumped out (i.e. at the end of the operator's shift).
7. Days with no measurement are not shown (Table 2) or denoted with NM, indicating no measurement (Table 3).
8. Tide level: L - low, M - medium, H - high.
9. Flooded - trench manholes inaccessible due to surface flooding from recent rain event.

**Seep Observation Note Key:**

- S = Sheen present at seep area  
P = Product present at seep area  
N = No sheen or product present at seep area  
F = Direct discharge (of product) observed from CSO



Table 3. Groundwater Remediation System Monitoring Data

Date	Time	Run Time Meter (hours)	Elapsed Time (hours)	Totalizer Reading (gallons)	Discharge Flow (gallons)	Discharge Flow (gpm)	Notes	Product Level (ft. in drum)	KO Tank Vac. (in. Hg.)	Product Level (gallons in drum)
10/3/2016	12:00	6374.10	18.1	4,630,123	3,292	8	Changed Series B bag filter.	0	18	0
10/6/2016	12:00	6,428.40	23.1	4,639,999	3,788	5.7	Changed Series A and C bag filters. Lead GAC vessel was backwashed.	0	18	0
10/10/2016	9:00	6,520.90	25	4,655,152	3,521	12	Change Series A bag filter.	0	18	0
10/14/2016	12:30	6,621.00	22.8	4,669,234	3,435	11.1	Change Series B bag filter.	0	18	0
10/18/2016	7:00	6,712.10	24.9	4,682,974	4,874	11.5	Change Series A bag filter.	0	18	0
10/20/2016	10:00	6,762.00	24.3	4,692,722	3,211	10	Change Series C bag filter.	0	18	0
10/25/2016	12:00	6,883.70	23.8	4,708,777	2,626	14.1	Change Series B bag filter. The check valves leading into the GAC units were observed to have, and were cleaned of, iron fouling.	0	18	0
10/28/2016	12:00	6,955.10	14.9	4,716,655	1,985	13.1	Change Series A bag filter; backwashed lead GAC vessel. Conducted shoreline walk during low tide; no sheen was observed.	0	18	0
11/1/2016	10:00	7,014.70	5.8	4,724,596	1,656	14.6	Change Series A bag filters. Incoming tide late morning/mid-afternoon. System was down upon arrival and restarted.	0	18	0
11/2/2016	7:10	7,020.50	22.7	4,726,252	8,619	21	Change Series B and C bag filters. Incoming tide late morning, mid-afternoon; tidal influence observed. System down upon arrival and restarted. Ran system overnight, crack trench and open wells; stabilize level at knock out tank.	0	17	0
11/3/2016	7:45	7,043.20	17	4,734,871	2,150	23	Clean Ventures onsite for product removal (35 gallons of LNAPL recovered from Vault 2).	0	18	0
11/10/2016	NM	7,162.50	68.8	4,749,924	8,753	15	Change series A bag filters. Tidal influence observed. System down upon arrival and restarted.	0	18	0
11/11/2016	7:45	7,231.30	25	4,758,677	2,557	19	Sample collected. Bag filters A, B, and C changed.	0	18	0
11/15/2016	13:00	7,331.20	18.9	4,768,904	2335	18	Change Series A bag filter.	0	18	0
11/21/2016	10:30	7,444.30	20.7	4,782,913	2827	9	Change Series A bag filter.	0	15	0
11/22/2016	9:00	7,465.00	23.4	4,785,740	2,877	13	Change Series B and C bag filters.	0	17	0
11/28/2016	6:30	7,605.60	23.9	4,802,999	4,423	18	Change Series A, B, and C bag filters.	0	17	0
11/29/2016	6:30	7,629.50	1.1	4,807,422	108	NM	System shut down due to high transfer alarm.	NM	20	NM
12/2/2016	7:30	7,630.60	NM	4,807,530	NM	19.6		NM	18	NM
See Notes on Table 2										





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**FedEx Tracking Number: 7775 1915 2951**

October 20, 2016

U.S. Environmental Protection Agency  
Region III (3WC22)  
1650 Arch Street  
Philadelphia, PA 19103-2029

Attn: Mr. Khai Dao

Subject: Chem-Clear, Inc. Facility, Chester, PA  
RCRA §3008(h) Corrective Action Consent Order  
U.S. EPA Docket No.: RCRA-3-064CA

Dear Khai:

In accordance with the above referenced final consent order, Section G(24), we are submitting four (4) copies of the bimonthly progress report for the reporting period of August 1, 2016 through September 30, 2016. If you have any questions or require additional information, please feel free to contact me at 410-470-0238 or via e-mail at [john.murosko@exeloncorp.com](mailto:john.murosko@exeloncorp.com).

Sincerely,

A handwritten signature in dark ink, appearing to read "J. Murosko", written over a horizontal line.

Jack Murosko, P.G.  
Project Manager  
Environmental Programs

Enclosure

cc: Sara Pantelidou, P.G., PADEP  
FedEx Tracking Number: 7775 1918 3310



# **Bi-Monthly Progress Report for the Exelon Generation (Formerly PECO) RCRA Corrective Action Project**

**Chem Clear Inc. Facility, Chester, Pennsylvania**

**Reporting Period: August 1, 2016 through September 30, 2016**

## **Status of Plan/Report Preparation**

The interim measure (IM) bio slurping system began operation on September 4, 1997. The RCRA Facility Investigation (RFI) Phase III Report was approved by the USEPA on June 25, 1999. The Corrective Measure Study (CMS) requirement of the Consent Order is being fulfilled through the Pennsylvania Act 2 process for the broader Chester Waterfront Redevelopment Project Site, of which the Chem Clear Site is included. The Chester Waterfront Remedial Investigation/Risk Assessment/Remedial Alternatives Assessment (RI/RA/RAA) Report was submitted to the USEPA on March 23, 2000 and to PADEP on June 13, 2000. PADEP approved the RI/RA/RAA in their letter dated September 11, 2000. A Groundwater Monitoring Plan was submitted to USEPA in October 2002, which was later approved, that included collecting/evaluating two years of groundwater quality data from the Chem Clear Site. The final Quarterly Monitoring Report associated with that Groundwater Monitoring Plan was submitted to PADEP and USEPA in October 2005. In a letter dated March 22, 2001, USEPA approved the RI/RA/RAA Report as the equivalent of the CMS Final Report. The Act 2 Final Report for the Chester Waterfront Site was submitted to PADEP in December 2003 and approved via their April 29, 2004 letter. A berm was constructed around the treatment area by Sweeney Construction, a contractor for the Buccini Pollin Group (BPG), the site owner/developer in late April 2011. The berm is intended to divert stormwater from the parking lot away from the treatment area. A temporary effluent treatment system was installed and started on September 28, 2009. The temporary effluent treatment system was taken offline on November 9, 2015 and was replaced with a new effluent treatment system, which began operation on November 30, 2015. The Site is currently attended by an operator 2-3 days per week as opposed to daily during operation of the temporary treatment system due to improved system runtime efficiency with the replacement system.

## **Status of System**

### **Interim Measures - Bio-Slurping System**

The Groundwater Interceptor/Collection Trench (ICT) was brought on-line October 24, 2003 to complement the existing angled extraction well system. Periodic inspection and routine monitoring of the two trenches, Trench 1 (T-1), and Trench 2 (T-2) was conducted during the reporting period. The inspections include observing fluid levels in the trenches.

The ICT and extraction wells operated normally during the reporting period. The resulting average runtime efficiency throughout the period was 92% in August 2016 and 79% in September 2016.

## **Summary of Activities**

### **Interim Measures - Bio-Slurping and ICT System**

The volume of product recovered from the IM Bio slurping and ICT system to date, 11,439.66 gallons, is shown in Table 1. The product volume includes product recovered from the oil/water separator (OWS) by the oil skimmer and product vacuumed from the trench sump vaults. Water recovered by the oil skimmer with the NAPL is decanted from the product recovery drums back into the OWS during system visits. During August and September, the ICTs were not pumped; therefore, no product was vacuumed from the trench sump vaults during this period.



### Interim Measures - Recovered Product

Table 1 summarizes product recovery to date. The fluid recovered from OWS and trench by Clean Ventures includes water, making the volume of product difficult to quantify. The volume of product recovered from the oil/water separator (55-gallon drum) and vacuumed from the trench sump vaults during the reporting period is reported in the Product Recovery table below.

Table 1. Product Recovery Totals		
Source	Product Recovered during Period (gal.)	Cumulative Product Recovered (gal.)
Bio-Slurping System (55-gallon drum)	0	10,646.09
Trench Vaults and OWS	0	543
Passive Recovery (MW-1 and MW-14)	0	250.57
Total	0	11,439.66

*The quantities of product recovered are estimates. Monitoring well MW-6, and the passive recovery system (i.e. passive bailer) contained within, was destroyed by Preferred Real Estate contractors on or about September 7, 2004. The product recovered directly from the trench sump vaults and OWS began to be presented separately from the amount recovered from the bio-slurping system beginning in the April 1 through May 31, 2016 Bi-Monthly Progress Report.*

### Summary of Changes Made

No changes were made during the current reporting period.

### Summary of Contacts Made with Community/Regulatory Agencies

- Periodic contact as needed with the Buccini Pollin Group (BPG), the site owner/developer, and their consultant Weston Solutions, Inc. regarding overall site redevelopment.
- The facility is currently operated in accordance with the Delaware County Regional Water Authority (DELCORA) Wastewater Discharge Permit No. 1DE 01-06 for Exelon Generation effective January 1, 2015 through December 31, 2018. Discharge Monitoring Reports (DMRs) are submitted monthly.

### Summary of Actual/Potential Problems

- On August 16 and 17, a high level in the OWS caused by a stuck float switch caused a system shutdown.
- The system operated with one pump instead of two from the OWS to the transfer tank and from the transfer tank to the carbon train from September 26 to October 3.

### Actions Taken to Rectify Problems

- On August 16 and 17, the high level float switch was cleaned and tested and bag filters were replaced.
- On September 19, additional BC personnel were scheduled to resolve damaged pumps 2 and 2A. The system was modified to run with two pumps instead of four (one pump from the OWS to the transfer tank, and one pump from the transfer tanks to the bag filters) until the pumps could be repaired, which resulted in a low flow. On September 20, the pumps were disassembled to troubleshoot for the cause of failure; mechanical seals were found to be worn and the pumps were heavily fouled with solids buildup, therefore the pump elements were soaked in a lactic acid solution overnight. On September 21, pump elements were cleaned and inspected and new mechanical seals and a backup pump end were ordered. On September 22, pump stacks and pump ends were assembled to prepare for installation of the mechanical seals.
- The pumps were repaired and returned to service on October 3.



### Personnel Changes

- None during this period.

### Projected Work for the Next Reporting Period

- Clean Ventures will perform product removal as necessary.
- A monthly vault pumping/LNAPL recovery event will be conducted in October 2016.
- Seep observations will continue to be made during each site visit. Routine inspections of MW-1 and MW-14 will continue. Similar inspections of the trenches (T-1 and T-2) will continue during the next reporting period.
- Routine observations of the ICT will be conducted in order to monitor performance of the ICT as well as its effect on overall system performance.
- Observations of river for sheen presence.
- Monitor site development activities and potential impacts on remediation system performance including the presence of sheen on the Delaware River.

### Copies of Reports/Data

Table 2 summarizes groundwater data collected during this reporting period for Interim Measures, including water level measurements and seep inspection records. Table 3 is a record of daily readings made by the site operator regarding the groundwater treatment system.



Table 2. Groundwater and Shoreline Monitoring Data

Date	Time	Tide Level	Seep	Sewer	River	Other	T1	T2	MW-1	MW-14
8/1/2016	14:00	M	N	N	N	N	7.01	7	9.11	6.11
8/5/2016	14:00	M	N	N	N	N	6.98	6.98	10.12	5.97
8/9/2016	14:00	M	N	N	N	N	7	7	11.08	6.87
8/10/2016	14:30	L	N	N	N	N	7.1	7.01	11.05	6.75
8/12/2016	8:00	M	N	N	N	N	-	-	-	-
8/16/2016	11:00	H	N	N	N	N	7.2	7.21	8.31	6.97
8/17/2016	12:00	M	N	N	N	N	7.15	7.16	8.62	6.43
8/19/2016	12:00	M	N	N	N	N	7.05	7.06	8.73	6.21
8/22/2016	8:00	H	N	N	N	N	6	6	8.41	5.95
8/24/2016	15:00	M	N	N	N	N	6.42	6.47	8.99	6.01
8/25/2016	12:00	L	N	N	N	N	6.39	6.39	9.24	6.02
8/30/2016	16:00	M	N	N	N	N	6.24	6.25	9.26	6.12
9/1/2016	8:00	M	N	N	N	N	6.11	6.11	8.79	5.77
9/2/2016	10:00	L	N	N	N	N	6.27	6.27	9.01	6
9/7/2016	9:30	H	N	N	N	N	-	-	-	-
9/9/2016	6:30	L	N	N	N	N	-	-	-	-
9/14/2016	10:00	M	N	N	N	N	6.97	6.96	10.79	6.02
9/16/2016	9:00	M	N	N	N	N	6.75	9.79	10.94	6.02
9/19/2016	12:00	M	N	N	N	N	6.92	7	14.86	2.33
9/20/2016	13:30	L	N	N	N	N	6.94	6.99	14.97	3.46
9/21/2016	9:00	M	N	N	N	N	NM	NM	NM	NM
9/22/2016	14:00	L	N	N	N	N	6.49	6.71	14.77	3.79
9/26/2016	9:00	H	N	N	N	N	6.41	6.5	12.23	4.79
9/30/2016	9:00	L	N	N	N	N	6.01	6	10.74	2.79
10/3/2016	12:00	M	N	N	N	N	6.84	6.92	12.79	4.49

**General Notes (Applicable for Table 2 and Table 3):**

1. Background and riverbank piezometers (G-2A, G-2C, G-3A, G-7B, G-7C, G-8, G-9B, G-10, G-13, G-16, and G-19) were decommissioned in December 2002.
2. The Interceptor/collection trench was brought online on October 23, 2003.
3. Flow rate is the pretreatment system discharge flow rate to sewer in gallons per minute (gpm).
4. Seep areas along shoreline were covered by rip-rap as of January 17, 2003. Sheen observations, when observed, are adjacent to seep areas along river or sand flats.
5. Water depth measurements in collection trench manholes T1 and T2 are from the top of the manhole casing in feet (ft). Current reference elevations: T1 = 6.99 ft, msl and T2 = 7.09 ft, msl.
6. T1 and T2 measurements taken after trenches have been pumped out (i.e. at the end of the operator's shift).
7. Days with no measurement are not shown (Table 2) or denoted with NM, indicating no measurement (Table 3).
8. Tide level: L - low, M - medium, H - high.
9. NM = No measurement.
10. Flooded - trench manholes inaccessible due to surface flooding from recent rain event.

**Seep Observation Note Key:**

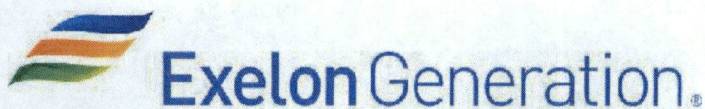
S = Sheen present at seep area  
P = Product present at seep area  
N = No sheen or product present at seep area  
F = Direct discharge (of product) observed from CSO



Table 3. Groundwater Remediation System Monitoring Data

Date	Time	Run Time Meter (hours)	Elapsed Time (hours)	Totalizer Reading (gallons)	Discharge Flow (gallons)	Discharge Flow (gpm)	Notes	Product Level (ft. in drum)	KO Tank Vac. (in. Hg.)	Product Level (gallons in drum)
8/1/2016	14:00	5,083.10	24.05	4,403,077	4,617	22	Change Series A bag filters.	0	18	0
8/5/2016	14:00	5,179.30	24.4	4,421,546	4,634	17/22	Change Series B bag filters	0	18	0
8/9/2016	14:00	5,276.80	24.7	4,440,080	3,876	15/22	Change Series A bag filters.	0	18	0
8/10/2016	14:30	5,301.50	20.9	4,443,956	3,383	13/25	Change Series B bag filters	0	18	0
8/12/2016	8:00	5,343.30	15.4	4,450,721	2,301	20	Berkeley pump performance continues to weaken.	0	18	0
8/16/2016	11:00	5,405.00	1.4	4,459,926	1,202	24-Oct	System offline caused by High Level in OWS, stuck Float. Float cleaned and tested. Change series A bag filter, monitor trench vault, walls.	0	18	0
8/17/2016	12:00	5,406.40	24.1	4,461,128	3,552	16/23	High level in OWS causes the system to go offline. Flow is observed through OWS and progressive cavity pump is adjusted to match capacity of the transfer pump. Change bag filter B, monitor trench vault and wells.	0	18	0
8/19/2016	12:00	5,454.60	24.4	4,468,231	5,590	20	System operation, inspect OM manual for Berkeley pump dis-assembly, develop plan for pump cleaning, monitor trench vault, walls+C10.	0	18	0
8/22/2016	8:00	NA	24.4	4,485,002	4,898	16/22	Change Series A bag filters.	0	NA	0
8/24/2016	15:00	5,576.40	21.3	4,494,797	3,824	20/22	Change Series B bag filters and transfer pump 1A is removed for service and the system is able to run without it. Pump 1A is disassembled, goes through heavy solids fouling, and sits in CLR (lactic acid) mixture overnight.	0	19	0
8/25/2016	12:00	5,597.70	25.2	4,498,621	4,141	19/22	Change series C bag filter. Pump stack and motor for pump 1A is reassembled and a clean motor is installed. A 25% increase in flow is observed. RPM match before cleaning is 500 RPM and 650 RPM after cleaning.	0	19	0
8/30/2016	16:00	5,723.50	19.8	4,519,328	3,797	16/20	-	0	19	0
9/1/2016	8:00	5,763.10	25.9	4,526,921	5,702	20	-	0	19	0
9/2/2016	10:00	5,789.00	223.5	4,532,623	4486	17/20	-	0	19	0
9/7/2016	9:30	6,906.50	474.6	4,555,053	6938	19/20	-	-	15	0
9/9/2016	6:30	5,957.40	25	4,568,928	759	19/201	-	-	20	0
9/14/2016	10:00	6,082.40	12.9	4,572,721	3,100	17/20	Change Series A bag filter.	0	19	0
9/16/2016	9:00	6,108.10	0.5	4,578,920	69	20	Change series B and C bag filters.	0	19	0
9/19/2016	12:00	6,109.60	1.2	4,579,127	0	17	System is down based on hour counter. System went down shortly after last visit due to a high Level in the transfer Tank. System was shut down to repair Pumps 2 and 2A.	0	17	0
9/20/2016	13:30	6,110.80	19.9	4,579,127	5425	14	System is down. Removed backup pump T1A and place sump T2 in position online. System is able to run with 2 transfer pumps at approximately 10 gpm flow. Pumps T2 and T2A are disassembled to identify cause of failure. Mechanical seals were found to be cracked and worn. Pumps were observed to be heavily fouled with solids buildup.	0	19	0
9/21/2016	9:00	6,130.70	25.4	4,584,552	2,046	11	Change Series A bag filter. Pump impellers and components are scrubbed and all floats and components are inspected. Vacuum pump oil change.	0	19	0
9/22/2016	14:00	6,156.10	23.5	4,586,598	4,408	19	Change Series B bag filter. Pump stack and pump ends are assembled and prepared for mechanical seal installment.	0	19	0
9/26/2016	9:00	6,250.10	18.7	4,604,231	3,343	8.1/12	Change Series A bag filter. Low flow caused by single pump operation.	0	19	0
9/30/2016	9:00	6324.90	16.4	4,617,602	4,174	8.4/12	System shut down caused by clogged bag filters and a low flow is caused by single pump operation.	0	18	0
10/3/16	12:00	6374.10	-	4,630,123	-	8/11	-	0	18	0
See Notes on Table 2										





**Jack Murosko, P.G.**  
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**FedEx Tracking Number: 7770 1478 8817**

August 17, 2016

U.S. Environmental Protection Agency  
Region III (3WC22)  
1650 Arch Street  
Philadelphia, PA 19103-2029

Attn: Mr. Khai Dao

Subject: Chem-Clear, Inc. Facility, Chester, PA  
RCRA §3008(h) Corrective Action Consent Order  
U.S. EPA Docket No.: RCRA-3-064CA

Dear Khai:

In accordance with the above referenced final consent order, Section G(24), we are submitting four (4) copies of the bimonthly progress report for the reporting period of June 1, 2016 through July 31, 2016. If you have any questions or require additional information, please feel free to contact me at 410-470-0238 or via e-mail at [john.murosko@exeloncorp.com](mailto:john.murosko@exeloncorp.com).

Sincerely,

A handwritten signature in dark ink, appearing to read "J. Murosko", written over a horizontal line.

Jack Murosko, P.G.  
Project Manager  
Environmental Programs

Enclosure

cc: Sara Pantelidou, P.G., PADEP  
FedEx Tracking Number: 7770 1479 7410



# **Bi-Monthly Progress Report for the Exelon Generation (Formerly PECO) RCRA Corrective Action Project**

**Chem Clear Inc. Facility, Chester, Pennsylvania**

**Reporting Period: June 1, 2016 through July 31, 2016**

## **Status of Plan/Report Preparation**

The interim measure (IM) bio slurping system began operation on September 4, 1997. The RCRA Facility Investigation (RFI) Phase III Report was approved by the USEPA on June 25, 1999. The Corrective Measure Study (CMS) requirement of the Consent Order is being fulfilled through the Pennsylvania Act 2 process for the broader Chester Waterfront Redevelopment Project Site, of which the Chem Clear Site is included. The Chester Waterfront Remedial Investigation/Risk Assessment/Remedial Alternatives Assessment (RI/RA/RAA) Report was submitted to the USEPA on March 23, 2000 and to PADEP on June 13, 2000. PADEP approved the RI/RA/RAA in their letter dated September 11, 2000. A Groundwater Monitoring Plan was submitted to USEPA in October 2002, which was later approved, that included collecting/evaluating two years of groundwater quality data from the Chem Clear Site. The final Quarterly Monitoring Report associated with that Groundwater Monitoring Plan was submitted to PADEP and USEPA in October 2005. In a letter dated March 22, 2001, USEPA approved the RI/RA/RAA Report as the equivalent of the CMS Final Report. The Act 2 Final Report for the Chester Waterfront Site was submitted to PADEP in December 2003 and approved via their April 29, 2004 letter. A berm was constructed around the treatment area by Sweeney Construction, a contractor for the Buccini Pollin Group (BPG), the site owner/developer in late April 2011. The berm is intended to divert stormwater from the parking lot away from the treatment area. A temporary effluent treatment system was installed and started on September 28, 2009. The temporary effluent treatment system was taken offline on November 9, 2015 and was replaced with a new effluent treatment system, which began operation on November 30, 2015. The Site is currently attended by an operator 2-3 days per week as opposed to daily during operation of the temporary treatment system due to improved system runtime efficiency with the replacement system.

## **Status of System**

### **Interim Measures - Bio-Slurping System**

The Groundwater Interceptor/Collection Trench (ICT) was brought on-line October 24, 2003 to complement the existing angled extraction well system. Periodic inspection and routine monitoring of the two trenches, Trench 1 (T-1), and Trench 2 (T-2) was conducted during the reporting period. The inspections include observing fluid levels in the trenches.

The ICT and extraction wells operated normally during the reporting period. The resulting average runtime efficiency throughout the period was 92% in June 2016 and 100% in July 2016.

## **Summary of Activities**

### **Interim Measures - Bio-Slurping and ICT System**

The volume of product recovered from the IM Bio slurping and ICT system to date, 11,439.66 gallons, is shown in Table 1. The product volume includes product recovered from the oil/water separator (OWS) by the oil skimmer and product vacuumed from the trench sump vaults. Water recovered by the oil skimmer with the NAPL is decanted from the product recovery drums back into the OWS during system visits. In July, the ICTs were pumped for three consecutive days to enhance drawdown and oil recovery. On July 28, 400 gallons of product was vacuumed from the trench sump vaults.



### Interim Measures - Recovered Product

Table 1 summarizes product recovery to date. The fluid recovered from OWS and trench by Clean Ventures includes water, making the volume of product difficult to quantify. The volume of product recovered from the oil/water separator (55-gallon drum) and vacuumed from the trench sump vaults during the reporting period is reported in the Product Recovery table below.

**Table 1. Product Recovery Totals**

Source	Product Recovered during Period (gal.)	Cumulative Product Recovered (gal.)
Bio-Slurping System (55-gallon drum)	0	10,646.09
Trench Vaults and OWS	400	543
Passive Recovery (MW-1 and MW-14)	0	250.57
Total	400	11,439.66

*The quantities of product recovered are estimates. Monitoring well MW-6, and the passive recovery system (i.e. passive bailer) contained within, was destroyed by Preferred Real Estate contractors on or about September 7, 2004. The product recovered directly from the trench sump vaults and OWS began to be presented separately from the amount recovered from the bio-slurping system beginning in the April 1 through May 31, 2016 Bi-Monthly Progress Report.*

### Summary of Changes Made

No changes were made during the current reporting period.

### Summary of Contacts Made with Community/Regulatory Agencies

- Periodic contact as needed with the Buccini Pollin Group (BPG), the site owner/developer, and their consultant Weston Solutions, Inc. regarding overall site redevelopment.
- The facility is currently operated in accordance with the Delaware County Regional Water Authority (DELCORA) Wastewater Discharge Permit No. 1DE 01-06 for Exelon Generation effective January 1, 2015 through December 31, 2018. Discharge Monitoring Reports (DMRs) are submitted monthly.

### Summary of Actual/Potential Problems

- There were no system shutdowns, except those required for routine maintenance, during the reporting period.

### Actions Taken to Rectify Problems

- None during this period.

### Personnel Changes

- None during this period.

### Projected Work for the Next Reporting Period

- Clean Ventures will perform product removal as necessary.
- Seep observations will continue to be made during each site visit. Routine inspections of MW-1 and MW-14 will continue. Similar inspections of the trenches (T-1 and T-2) will continue during the next reporting period.
- Routine observations of the ICT will be conducted in order to monitor performance of the ICT as well as its effect on overall system performance.
- Observations of river for sheen presence.
- Monitor site development activities and potential impacts on remediation system performance including the presence of sheen on the Delaware River.



**Copies of Reports/Data**

Table 2 summarizes groundwater data collected during this reporting period for Interim Measures, including water level measurements and seep inspection records. Table 3 is a record of daily readings made by the site operator regarding the groundwater treatment system.



**Table 2. Groundwater and Shoreline Monitoring Data**

Date	Time	Tide Level	Seep	Sewer	River	Other	T1	T2	MW-1	MW-14
6/1/2016	16:00	H	N	N	N	N	7.1	7.31	6.49	4.39
6/3/2016	8:30	H	N	N	N	N	7.23	7.37	6.79	4.81
6/6/2016	8:30	M	N	N	N	N	7.87	7.79	6.87	5.32
6/9/2016	8:00	L	N	N	N	N	8.01	8.3	5.08/	5.05
6/14/2016	11:00	L	N	N	N	N	7.59	7.62	6.87	6.22
6/17/2016	13:38	L	N	N	N	N				
6/22/2016	17:00	H	N	N	N	N	7.23	7.15	7.99	6.51
6/24/2016	13:00	L	N	N	N	N	7.95	7.77	7.51	6.67
6/28/2016	8:30	M	N	N	N	N	NM	NM	NM	NM
6/30/2016	8:30	H	N	N	N	N	6.55	6.49	8.37	6
7/6/2016	8:00	L	N	N	N	N	6.59	6.49	8.57	6.17
7/8/2016	8:30	M	N	N	N	N	6.79	6.71	8.28	6.41
7/11/2016	14:00	H	N	N	N	N	6.79	6.79	9.32	6.41
7/15/2016	13:00	H	N	N	N	N	6.33	6.43	9.05	5.51
7/18/2016	8:00	H	N	N	N	N	6.33	6.43	9.05	5.51
7/20/2016	8:00	L	N	N	N	N	7.01	6.9	6.1	6.51
7/22/2016	8:00	M	N	N	N	N	7.22	7.18	6.99	5.42
7/25/2016	8:30	M	N	N	N	N	6.84	6.85	8.12	5.59
7/26/2016	8:30	M	N	N	N	N	10.91	9.87	8.95	5.89
7/27/2016	7:30	L	N	N	N	N	15.5	12.11	8.95	6.01
7/29/2016	8:30	M	N	N	N	N	10.23	10.2	9.01	NM
8/1/2016	14:00	M	N	N	N	N	7.01	7	9.11	6.11

**General Notes:**

1. Background and riverbank piezometers (G-2A, G-2C, G-3A, G-7B, G-7C, G-8, G-9B, G-10, G-13, G-16, and G-19) were decommissioned in December 2002.
2. The interceptor/collection trench was brought online on October 23, 2003.
3. Flow rate is the pretreatment system discharge flow rate to sewer in gallons per minute (gpm).
4. Seep areas along shoreline were covered by rip-rap as of January 17, 2003. Any sheen observations are adjacent to seep areas along river or sand flats.
5. Water depth measurements in collection trench manholes T1 and T2 are from the top of the manhole casing in feet (ft). Reference elevations: T1 = 6.99 ft, msl and T2 = 7.09 ft, msl.
6. Manhole T1 was raised 2 feet as of January 14, 2008. Manhole T2 was raised 1 foot as of January 15, 2008.
7. NM = No measurement.

**Seep Observation Note Key:**

- S = Sheen present at seep area  
P = Product present at seep area  
N = No sheen or product present at seep area  
F = Direct discharge (of product) observed from CSO



Date	Time	Run Time Meter (hours)	Elapsed Time (hours)	Totalizer Reading (gallons)	Discharge Flow (gallons)	Discharge Flow (gpm)	Notes	Product Level (ft. in drum)	KO Tank Vac. (in. Hg.)	Product Level (gallons in drum)
6/1/2016	16:00	3,721.00	19.8	4,188,341	2,933	25	Changed Series C bag filters. DELCORA and Exelon personnel onsite for annual sampling.	<1	18	<0.05
6/3/2016	8:30	3,760.70	24	4,194,207	4,273	25	Change Series B bag filters.	<1	19	<0.05
6/6/2016	8:30	3,872.40	23.6	4,207,027	3,730	27	Change Series A bag filters.	<1	19	<0.05
6/9/2016	8:00	3,903.60	24.6	4,218,218	2,944	25	Change Series B and C bag filters.	<1	16	<0.05
6/14/2016	11:00	4,026.40	24.8	4,232,939	2,857	25	Change Series A bag filters.	<1	16	<0.05
6/17/2016	13:38	4,100.90	24.9	-	2,857	24	Change Series C bag filters.	<1	16.5	<0.05
6/22/2016	17:00	4,225.30	21.4	4,255,793	2,023	22	Change Series A bag filters and changed vacuum pump oil.	1	16.5	0.05
6/24/2016	13:00	4,268.10	0.5	4,259,839	50	24	Change Series B and C bag filters. Prepared for GAC change out by backwashing both units and allowing both units to drain over the weekend.	1	16.5	0.05
6/28/2016	8:30	4,268.60	23.7	4,259,889	4,724	37	System shutdown for carbon change out.	1	19	0.05
6/30/2016	8:30	4,316.00	24	4,268,437	4,749	37	-	<1	19	<0.05
7/6/2016	8:00	4,459.70	24.3	4,296,928	3,792	19	Change Series A bag filters.	<1	17	<0.05
7/8/2016	8:30	4,508.30	26.6	4,304,511	2,770	20	Change Series B and C bag filters.	<1	18	<0.05
7/11/2016	14:00	4,588.10	23	4,312,822	3,484	20	Change Series A bag filters.	<1	18	<0.05
7/15/2016	13:00	4,680.10	22.1	4,326,757	4108	18	Change Series A bag filters.	<1	18	<0.05
7/18/2016	8:00	4,746.40	25.2	4,339,081	2099	18	Change Series A bag filters.	<1	18	<0.05
7/20/2016	8:00	4,796.80	23.9	4,343,278	944	22	Change series B and C bag filters; backwashed lead GAC unit.	<1	18	<0.05
7/22/2016	8:00	4,844.70	22.6	4,345,165	5,224	25	Change Series A bag filters.	<1	18	<0.05
7/25/2016	8:30	4,912.40	23.8	4,360,836	7,255	22	Change Series A, B, and C bag filters. Prepare for vacuum event by pumping trench manually.	<1	18	<0.05
7/26/2016	8:30	4,936.20	21.6	4,368,091	11,798	24	Change Series A, B, and C bag filters. Prepare for vacuum event by pumping trench manually.	<1	18	<0.05
7/27/2016	7:30	4,957.80	23.7	4,379,889	8196	25	Clean Ventures onsite for product removal. Approximately 400 gallons of product was removed from the trench vault. System tanks were vacuumed and cleaned.	0	18	0
7/29/2016	8:30	5,005.20	26	4,396,281	2,265	23	Change Series A bag filters.	0	18	0
8/1/2016	14:00	5,083.10	-	4,403,077	-	22	Change Series B bag filters.	-	18	-
See Notes on Table 2										





**Jack Murosko, P.G.**  
Sr. Environmental Specialist  
Environmental Programs

300 Exelon Way  
Kennett Square, PA 19348

410 470 0238 Office  
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**FedEx Tracking Number: 7765 5807 5961**

June 20, 2016

U.S. Environmental Protection Agency  
Region III (3WC22)  
1650 Arch Street  
Philadelphia, PA 19103-2029

Attn: Mr. Khai Dao

Subject: Chem-Clear, Inc. Facility, Chester, PA  
RCRA §3008(h) Corrective Action Consent Order  
U.S. EPA Docket No.: RCRA-3-064CA

Dear Khai:

In accordance with the above referenced final consent order, Section G(24), we are submitting four (4) copies of the bimonthly progress report for the reporting period of April 1, 2016 through May 31, 2016. If you have any questions or require additional information, please feel free to contact me at 410-470-0238 or via e-mail at [john.murosko@exeloncorp.com](mailto:john.murosko@exeloncorp.com).

Sincerely,

A handwritten signature in black ink, appearing to read "J. Murosko", written over a horizontal line.

Jack Murosko, P.G.  
Project Manager  
Environmental Programs

Enclosure

cc: Sara Pantelidou, P.G., PADEP  
FedEx Tracking Number: 7765 5809 7370



# **Bi-Monthly Progress Report for the Exelon Generation (Formerly PECO) RCRA Corrective Action Project**

**Chem Clear Inc. Facility, Chester, Pennsylvania**

**Reporting Period: April 1, 2016 through May 31, 2016**

## **Status of Plan/Report Preparation**

The interim measure (IM) bio slurping system began operation on September 4, 1997. The RCRA Facility Investigation (RFI) Phase III Report was approved by the USEPA on June 25, 1999. The Corrective Measure Study (CMS) requirement of the Consent Order is being fulfilled through the Pennsylvania Act 2 process for the broader Chester Waterfront Redevelopment Project Site, of which the Chem Clear Site is included. The Chester Waterfront Remedial Investigation/Risk Assessment/Remedial Alternatives Assessment (RI/RA/RAA) Report was submitted to the USEPA on March 23, 2000 and to PADEP on June 13, 2000. PADEP approved the RI/RA/RAA in their letter dated September 11, 2000. A Groundwater Monitoring Plan was submitted to USEPA in October 2002, which was later approved, that included collecting/evaluating two years of groundwater quality data from the Chem Clear Site. The final Quarterly Monitoring Report associated with that Groundwater Monitoring Plan was submitted to PADEP and USEPA in October 2005. In a letter dated March 22, 2001, USEPA approved the RI/RA/RAA Report as the equivalent of the CMS Final Report. The Act 2 Final Report for the Chester Waterfront Site was submitted to PADEP in December 2003 and approved via their April 29, 2004 letter. A berm was constructed around the treatment area by Sweeney Construction, a contractor for the Buccini Pollin Group (BPG), the site owner/developer in late April 2011. The berm is intended to divert stormwater from the parking lot away from the treatment area. A temporary effluent treatment system was installed and started on September 28, 2009. The temporary effluent treatment system was taken offline on November 9, 2015 and was replaced with a new effluent treatment system, which began operation on November 30, 2015. The Site is currently attended by an operator 3 days per week as opposed to daily during operation of the temporary treatment system due to improved system runtime efficiency with the replacement system.

## **Status of System**

### **Interim Measures - Bio-Slurping System**

The Groundwater Interceptor/Collection Trench (ICT) was brought on-line October 24, 2003 to complement the existing angled extraction well system. Periodic inspection and routine monitoring of the two trenches, Trench 1 (T-1), and Trench 2 (T-2) was conducted during the reporting period. The inspections include observing fluid levels in the trenches.

The ICT and extraction wells operated normally during the reporting period. The resulting average runtime efficiency throughout the period was 100% in April 2016 and 88% in May 2016.

## **Summary of Activities**

### **Interim Measures - Bio-Slurping and ICT System**

The volume of product recovered from the IM Bio slurping and ICT system to date, 10,646.09 gallons, is shown in Table 1. The product volume includes product recovered from the oil/water separator. Water recovered by the oil skimmer with the NAPL is decanted from the product recovery drums back into the oil/water separator on a daily basis.



### Interim Measures - Passive Recovery

MW-1 and MW-14 were routinely monitored during the reporting period for the presence of product. As stated in previous reports, monitoring well MW-6, and the passive recovery system (i.e. passive bailer) contained within, was destroyed by Preferred Real Estate contractors on or about September 7, 2004. The volume of product recovered from the passive recovery system, 250.57 gallons, is shown in Table 1.

### Interim Measures - Recovered Product

Table 1 summarizes product recovery to date. The fluid recovered from OWS and trench by Clean Ventures includes water, making the volume of product difficult to quantify. The volume of product recovered from the oil/water separator and vacuumed from the trench sump vaults during the reporting period is reported in the Product Recovery table below. For the current monitoring period we have begun reporting the product recovered directly from the trench sump vaults and OWS separately from the treatment system as shown below.

Table 1. Product Recovery Totals		
Source	Product Recovered during Period (gal.)	Cumulative Product Recovered (gal.)
Bio-Slurping System	0	10,646.09
Trench Vaults and OWS	0	143
Passive Recovery (MW-1 and MW-14)	0	250.57
Total	195	11,039.66

*The quantities of product recovered are estimates, Monitoring well MW-6 was destroyed in September 2004 and is no longer part of passive product recovery efforts.*

### Summary of Changes Made

No changes were made during the current reporting period.

### Summary of Contacts Made with Community/Regulatory Agencies

- Periodic contact as needed with the Buccini Pollin Group (BPG), the site owner/developer, and their consultant Weston Solutions, Inc. regarding overall site redevelopment.
- The facility is currently operated in accordance with the Delaware County Regional Water Authority (DELCORA) Wastewater Discharge Permit No. 1DE 01-06 for Exelon Generation effective January 1, 2015 through December 31, 2018. Discharge Monitoring Reports (DMRs) are submitted monthly.
- DELCORA personnel were onsite on June 1, 2016 for annual compliance sampling, including collection of a 24-hour composite sample for analysis of metals.

### Summary of Actual/Potential Problems

- The totalizer only recorded a portion of the flow that was discharged from April 1 through April 4 due to clogging of the totalizer.
- On May 10, the check valve located between the knockout tank and vacuum pump was inspected and found broken.
- There was no discharge from the system on May 14, May 15, May 17, May 18, and May 26 due to a high level in the transfer tank.

### Actions Taken to Rectify Problems

- An average flow was assumed for April 1 through April 3 based on the average flow for the remainder of the month. The totalizer was cleaned and remained functional for the rest of the period.



- On May 13, the check valve located between the knockout tank and vacuum pump was replaced.
- The high level in the transfer tank is suspected to have been caused by a level float stuck in the high position and was corrected on arrival during the next system visit following the shutdown.

### **Personnel Changes**

- None during this period.

### **Projected Work for the Next Reporting Period**

- A carbon change out is scheduled for the end of June.
- Clean Ventures will perform product removal as necessary.
- Seep observations will continue to be made during each site visit. Routine inspections of MW-1 and MW-14 will continue. Similar inspections of the trenches (T-1 and T-2) will continue during the next reporting period.
- Routine observations of the ICT will be conducted in order to monitor performance of the ICT as well as its effect on overall system performance.
- Observations of river for sheen presence.
- Monitor site development activities and potential impacts on remediation system performance including the presence of sheen on the Delaware River.

### **Copies of Reports/Data**

Table 2 summarizes groundwater data collected during this reporting period for Interim Measures, including water level measurements and seep inspection records. Table 3 is a record of daily readings made by the site operator regarding the groundwater treatment system.



Table 2. Groundwater and Shoreline Monitoring Data

Date	Time	Tide Level	Seep 1a	Seep 1b	Seep 2	Seep 3a	Seep 3b	Seep 4	Sewer	River	Other	T1	T2	MW-1	MW-14
4/1/2016	8:00	H	N	N	N	N	N	N	N	N	N	8.59	8.62	5.1	NM
4/4/2016	17:38	-	N	N	N	N	N	N	N	N	N	8.25	8.41	5.2	NM
4/8/2016	8:00	M	N	N	N	N	N	N	N	N	N	8.77	8.85	5.01	NM
4/11/2016	8:00	L	N	N	N	N	N	N	N	N	N	7.94	8.02	4.79	NM
4/13/2016	8:00	M	N	N	N	N	N	N	N	N	N	8.74	8.83	5.11	NM
4/15/2016	8:00	M	N	N	N	N	N	N	N	N	N	8.4	8.51	5.39	NM
4/18/2016	12:00	L	N	N	N	N	N	N	N	N	N	7.95	7.99	5.79	NM
4/19/2016	8:00	M	N	N	N	N	N	N	N	N	N	Flooded	Flooded	Flooded	NM
4/22/2016	8:00	M	N	N	N	N	N	N	N	N	N	8.4	8.57	5.8	6.07
4/25/2016	8:00	H	N	N	N	N	N	N	N	N	N	8.37	8.44	5.97	6.11
4/27/2016	8:00	M	N	N	N	N	N	N	N	N	N	8.27	8.3	5.04	6.15
4/29/2016	8:00	H	N	N	N	N	N	N	N	N	N	8.09	8.23	4.77	6.01
5/2/2016	16:00	M	N	N	N	N	N	N	N	N	N	8.04	8.05	4.81	6
5/3/2016	8:00	H	N	N	N	N	N	N	N	N	N	8.21	8.34	4.64	NM
5/6/2016	8:00	L	N	N	N	N	N	N	N	N	N	8.34	8.5	5.27	NM
5/9/2016	15:00	H	N	N	N	N	N	N	N	N	N	8.11	8.11	5.43	6.27
5/10/2016	8:30	L	N	N	N	N	N	N	N	N	N	8.07	8.08	5.43	6.39
5/13/2016	9:00	M	N	N	N	N	N	N	N	N	N	8.01	8.17	6	6.4
5/16/2016	16:00	M	N	N	N	N	N	N	N	N	N	7.21	7.27	5.49	6.29
5/19/2016	8:30	L	N	N	N	N	N	N	N	N	N	6.97	6.99	5.55	-
5/20/2016	8:30	L	N	N	N	N	N	N	N	N	N	7.53	7.77	6.09	-
5/23/2016	7:30	L	N	N	N	N	N	N	N	N	N	Flooded	Flooded	5.01	6.11
5/25/2016	8:00	M	N	N	N	N	N	N	N	N	N	7.27	7.28	6.11	6.29
5/27/2016	9:00	H	N	N	N	N	N	N	N	N	N	7.59	7.83	6.29	6.99
5/31/2016	8:00	H	N	N	N	N	N	N	N	N	N	7.21	7.22	6	6.99
6/1/2016	16:00	H	N	N	N	N	N	N	N	N	N	7.1	7.31	6.49	4.39

General Notes (Applicable for Table 2 and Table 3):

1. Background and riverbank piezometers (G-2A, G-2C, G-3A, G-7B, G-7C, G-8, G-9B, G-10, G-13, G-16, and G-19) were decommissioned in December 2002.
2. The interceptor/collection trench was brought online on October 23, 2003.
3. Flow rate is the pretreatment system discharge flow rate to sewer in gallons per minute (gpm).
4. Seep areas along shoreline were covered by rip-rap as of January 17, 2003. Sheen observations, when observed, are adjacent to seep areas along river or sand flats.
5. Water depth measurements in collection trench manholes T1 and T2 are from the top of the manhole casing in feet (ft). Reference elevations: T1 = 6.99 ft, msl and T2 = 7.09 ft, msl.
6. Days with no measurement are not shown (Table 1) or denoted with NM, indicating no measurement (Table 2).
7. For tide level measurement column, 'L' indicates low tide, 'M' indicates medium tide, and 'H' indicates high tide.
8. T1 and T2 measurements taken after trenches have been pumped out (i.e. at the end of the operator's shift).
9. Flooded - trench manholes inaccessible due to surface flooding from recent rain event

Seep Observation Note Key:

- S = Sheen present at seep area  
P = Product present at seep area  
N = No sheen or product present at seep area  
F = Direct discharge (of product) observed from CSO



Table 3. Groundwater Remediation System Monitoring Data

Date	Time	Run Time Meter (hours)	Elapsed Time (hours)	Totalizer Reading (gallons)	Discharge Flow (gallons)	Discharge Flow (gpm)	Notes	Product Level (ft. in drum)	KO Tank Vac. (in. Hg.)	Product Level (gallons in drum)
4/1/2016	8:00	2,445.60	23.6	4,011,393	3,347	35	Changed bag filters on Series B and C; troubleshoot Series A actuator valve; ran trench for 5 hours.	0	17	0
4/4/2016	17:38	2,525.30	23.7	4,013,432	2,691	25	Changed bag filters on Series A, ran trench for 30 minutes. The totalizer only recorded approximately 1,600 gallons from 4/1 to 4/3 due to clogging; therefore, an average flow was assumed for the period from 4/1 to 4/3 based on the average flow for the remainder of the period [(4,103,811 gallons - 1,937 gallons - 4,013,432 gallons)/27 days]. The totalizer was cleaned and remained functional for the rest of the period.	0	17	0
4/8/2016	8:00	2,611.20	24.1	4,024,196	3,775	28	Changed bag filters on Series B and C, ran trench for 3 hours, monthly compliance sample collected, continued maintenance on bag filter actuator valve.	<1	16	<0.05
4/8/2016	8:00	2,611.20	24.1	4,024,196	3,775	28	Ran trench for 4 hours, adjusted system wellhead valves, re-fit the product skimmer piping and belt.	<1	16	<0.05
4/11/2016	8:00	2,683.50	24	4,035,521	3,600	23	Changed bag filters on Series A; ran trench for 2.5 hours.	<1	15	<0.05
4/13/2016	8:00	2,731.50	24	4,042,721	4,601	38	Changed bag filters on Series B and C, ran trench for 3 hours, backwashed the lead granular activated carbon (GAC) vessel.	<1	16	<0.05
4/15/2016	8:00	2,779.40	23.7	4,051,923	2,933	35	Ran trench for 2.5 hours.	<1	16	<0.05
4/18/2016	12:00	2,854.40	24.1	4,060,721	3,300	17	Changed bag filters on Series A.	<1	17	<0.05
4/19/2016	8:00	2,874.50	23.6	4,064,021	3,501	35	Changed bag filters on Series B; ran trench for 2 hours.	<1	17	<0.05
4/22/2016	8:00	2,945.20	25.9	4,074,523	3,515	35	Changed bag filters on Series C; ran trench for 2 hours.	<1	17	<0.05
4/25/2016	8:00	3,022.90	21.8	4,085,069	3,620	32	Changed bag filters on Series A.	<1	15	<0.05
4/27/2016	8:00	3,066.40	24	4,092,309	2,846	30	Changed bag filters on Series C.	<1	15	<0.05
4/29/2016	8:00	3,114.40	24.6	4,098,001	1,937	27	Changed bag filters on Series B.	<1	16	<0.05
5/2/2016	16:00	3,196.10	22.6	4,103,811	-	25	Changed bag filters on Series A.	<1	16	<0.05
5/3/2016	8:00	3,210.70	-	4,110,430	-	25	Backwashed lead GAC vessel.	<1	16	<0.05
5/6/2016	8:00	3,281.80	26.3	4,121,063	2,976	33	Bag filters in Series B and C were replaced; the lead GAC vessel was backwashed.	<1	16	<0.05
5/9/2016	15:00	3,360.70	16.3	4,129,991	3,229	20		<1	16	<0.05
5/10/2016	8:30	3,377.00	17.8	4,133,220	3,296	30	Changed bag filters on Series A and B. The check valve between the knockout tank and vacuum pump was inspected and found broken.	<1	16	<0.05
5/13/2016	9:00	3,430.40	6.6	4,143,107	5,016	30	Changed bag filters on Series C. A new check valve between the knockout tank and vacuum pump was installed.	<1	16	<0.05
5/16/2016	16:00	3,437.00	1.1	4,148,123	168	27	The system was shutdown due to a high level in the transfer tank; changed bag filters on Series A.	<1	16	<0.05
5/19/2016	8:30	3,438.10	22.1	4,148,291	1,700	27	The system was shutdown due to a high level in the transfer tank; bag filters in Series B and C were replaced and the system ran normally.	<1	16	<0.05
5/20/2016	8:30	3,460.20	23.6	4,149,991	3,582	29		<1	16	<0.05
5/23/2016	7:30	3,531.10	24.1	4,160,737	3,691	25		<1	19	<0.05
5/25/2016	8:00	3,579.30	15	4,168,118	1,873	25	Changed bag filters Series A and B; backwashed lead GAC vessel.	<1	19	<0.05
5/27/2016	9:00	3,594.30	23.7	4,169,991	3,324	29	The system was shutdown due to a high level in the transfer tank; changed bag filters Series C.	<1	19	<0.05
5/31/2016	8:00	3,689.20	31.8	4,183,288	5,053	25	Changed Series A bag filters.	<1	19	<0.05
6/1/2016	16:00	3,721.00	-	4,188,341	-	25	Changed Series C bag filters. DELCORA and Exelon personnel onsite for annual sampling.	<1	18	<0.05

See Notes on Table 2





**FedEx Tracking Number: 7761 9792 0109**

April 26, 2016

U.S. Environmental Protection Agency  
Region III (3WC22)  
1650 Arch Street  
Philadelphia, PA 19103-2029

Attn: Mr. Khai Dao

Subject: Chem-Clear, Inc. Facility, Chester, PA  
RCRA §3008(h) Corrective Action Consent Order  
U.S. EPA Docket No.: RCRA-3-064CA

Dear Khai:

In accordance with the above referenced final consent order, Section G(24), we are submitting four (4) copies of the bimonthly progress report for the reporting period of February 1, 2016 through March 31, 2016. If you have any questions or require additional information, please feel free to contact me at 410-470-0238 or via e-mail at [john.murosko@exeloncorp.com](mailto:john.murosko@exeloncorp.com).

Sincerely,

A handwritten signature in dark ink, appearing to read "J. Murosko", written over a light blue horizontal line.

Jack Murosko, P.G.  
Project Manager  
Environmental Programs

Enclosure

cc: Sara Pantelidou, P.G., PADEP  
FedEx Tracking Number: 7761 9797 7998

**Jack Murosko, P.G.**  
Sr. Environmental Specialist  
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# Bi-Monthly Progress Report for the Exelon Generation (Formerly PECO) RCRA Corrective Action Project

Chem Clear Inc. Facility, Chester, Pennsylvania

Reporting Period: February 1, 2016 through March 31, 2016

## Status of Plan/Report Preparation

The interim measure (IM) bio slurping system began operation on September 4, 1997. The RCRA Facility Investigation (RFI) Phase III Report was approved by the USEPA on June 25, 1999. The Corrective Measure Study (CMS) requirement of the Consent Order is being fulfilled through the Pennsylvania Act 2 process for the broader Chester Waterfront Redevelopment Project Site, of which the Chem Clear Site is included. The Chester Waterfront Remedial Investigation/Risk Assessment/Remedial Alternatives Assessment (RI/RA/RAA) Report was submitted to the USEPA on March 23, 2000 and to PADEP on June 13, 2000. PADEP approved the RI/RA/RAA in their letter dated September 11, 2000. A Groundwater Monitoring Plan was submitted to USEPA in October 2002, which was later approved, that included collecting/evaluating two years of groundwater quality data from the Chem Clear Site. The final Quarterly Monitoring Report associated with that Groundwater Monitoring Plan was submitted to PADEP and USEPA in October 2005. In a letter dated March 22, 2001, USEPA approved the RI/RA/RAA Report as the equivalent of the CMS Final Report. The Act 2 Final Report for the Chester Waterfront Site was submitted to PADEP in December 2003 and approved via their April 29, 2004 letter. A berm was constructed around the treatment area by Sweeney Construction, a contractor for the Buccini Pollin Group (BPG), the site owner/developer in late April 2011. The berm is intended to divert stormwater from the parking lot away from the treatment area.

## Status of System

### Interim Measures - Bio-Slurping System

The Groundwater Interceptor/Collection Trench (ICT) was brought on-line October 24, 2003 to complement the existing angled extraction well system. Periodic inspection and routine monitoring of the two trenches, Trench 1 (T-1), and Trench 2 (T-2) was conducted during the reporting period. The inspections include observing fluid levels in the trenches.

The ICT and extraction wells operated normally during the reporting period. The resulting average run-time efficiency throughout the period was 97% in February 2016 and 99% in March 2016.

## Summary of Activities

### Interim Measures - Bio-Slurping and ICT System

Clean Ventures was on-site on March 23, 2016 to remove 43 gallons of product from the T-1 and T-2 vaults, 100 gallons of dissolved non-aqueous phase liquid (DNAPL) from the oil/water separator, and a drum containing 52 gallons of previously decanted product from the former oil/water separator. The new oil/water separator was cleaned with treated system water, solids and non-aqueous phase liquid (NAPL) were vacuumed and disposed of by Clean Ventures. The volume of product recovered from the IM Bio slurping and ICT system to date, 10,646.09 gallons, is shown in Table 1. The product volume includes product recovered from the oil/water separator. Water recovered by the oil skimmer with the NAPL is decanted from the product recovery drums back into the oil/water separator on a daily basis.



### Interim Measures - Passive Recovery

MW-1 and MW-14 were routinely monitored during the reporting period for the presence of product. As stated in previous reports, monitoring well MW-6, and the passive recovery system (i.e. passive bailer) contained within, was destroyed by Preferred Real Estate contractors on or about September 7, 2004. The volume of product recovered from the passive recovery system, 250.57 gallons, is shown in Table 1.

### Interim Measures - Recovered Product

Table 1 summarizes product recovery to date. The fluid recovered from OWS and trench by Clean Ventures includes water, making the volume of product difficult to quantify. The volume of product recovered from the oil/water separator and vacuumed from the trench sump vaults during the reporting period is reported in the Product Recovery table below. For the current monitoring period we have begun reporting the product recovered directly from the trench sump vaults and OWS separately from the treatment system as shown below.

Table 1. Product Recovery Totals		
Source	Product Recovered during Period (gal.)	Cumulative Product Recovered (gal.)
Bio-Slurping System	52	10,646.09
Trench Vaults and OWS	143	143
Passive Recovery (MW-1 and MW-14)	0	250.57
Total	195	11,039.66

*The quantities of product recovered are estimates, Monitoring well MW-6 was destroyed in September 2004 and is no longer part of passive product recovery efforts.*

### Summary of Changes Made

A temporary effluent treatment system was installed and started on September 28, 2009. The temporary effluent treatment system was taken offline on November 9, 2015 and was replaced with a new effluent treatment system, which began operation on November 30, 2015. The Site is currently attended by an operator 3 days per week as opposed to daily during operation of the temporary treatment system due to improved system runtime efficiency with the replacement system.

### Summary of Contacts Made with Community/Regulatory Agencies

- Periodic contact as needed with the Buccini Pollin Group (BPG), the site owner/developer, and their consultant Weston Solutions, Inc. regarding overall site redevelopment.
- The facility is currently operated in accordance with Wastewater Discharge Permit No. 1DE 01-06 for Exelon Generation effective January 1, 2015 through December 31, 2018.

### Summary of Actual/Potential Problems

- The system shut down on February 15 due to a high level alarm in the transfer tanks caused by clogged bag filters.

### Actions Taken to Rectify Problems

- On February 17, the bag filters on all duplex bag filters (Series A, B, and C) were changed, the lead liquid granular activated carbon (LGAC) unit was backwashed, and the system was restarted.

### Personnel Changes

- None during this period.



### Projected Work for the Next Reporting Period

- Clean Ventures will perform product removal as necessary.
- Seep observations will continue to be made during each site visit. Routine inspections of MW-1 will continue. Similar inspections of the trenches (T-1 and T-2) will continue during the next reporting period.
- Routine observations of the ICT will be conducted in order to monitor performance of the ICT as well as its effect on overall system performance.
- Observations of river for sheen presence.
- Monitor site development activities and potential impacts on remediation system performance including the presence of sheen on the Delaware River.

### Copies of Reports/Data

Table 2 summarizes groundwater data collected during this reporting period for Interim Measures, including water level measurements and seep inspection records. Table 3 is a record of daily readings made by the site operator regarding the groundwater treatment system.



**Table 2. Groundwater and Shoreline Monitoring Data**

Date	Time	Tide Level	Flow Rate	Seep 1a	Seep 1b	Seep 2	Seep 3a	Seep 3b	Seep 4	Sewer	River	Other	T1	T2
2/1/2016	6:30	L	34	N	N	N	N	N	N	N	N	N	9.25	NM
2/2/2016	7:45	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM	NM
2/3/2016	14:30	M	33	N	N	N	N	N	N	N	N	N	9.71	9.61
2/5/2016	14:30	H	46	N	N	N	N	N	N	N	N	N	8.56	8.67
2/10/2016	15:30	L	26	N	N	N	N	N	N	N	N	N	7	8.11
2/11/2016	9:00	M/L	20	N	N	N	N	N	N	N	N	N	7.67	7.77
2/12/2016	12:00	M	28	N	N	N	N	N	N	N	N	N	8	8.1
2/17/2016	12:00	H	40	N	N	N	N	N	N	N	N	N	7.5	7.5
2/18/2016	14:00	H	40	N	N	N	N	N	N	N	N	N	8.01	8.24
2/19/2016	13:30	M	41	N	N	N	N	N	N	N	N	N	8.01	8.14
2/23/2016	13:30	L	33	N	N	N	N	N	N	N	N	N	8.27	8.35
2/24/2016	8:00	M	42	N	N	N	N	N	N	N	N	N	9.35	9.47
2/26/2016	14:30	H	38	N	N	N	N	N	N	N	N	N	Flooded	Flooded
2/29/2016	8:30	L	38	N	N	N	N	N	N	N	N	N	9.27	9.33
3/1/2016	8:00	L	30	N	N	N	N	N	N	N	N	N	9.39	9.56
3/2/2016	8:00	L	27	N	N	N	N	N	N	N	N	N	9.86	9.95
3/4/2016	8:30	M	40	N	N	N	N	N	N	N	N	N	11.63	11.71
3/7/2016	8:25	H	44	N	N	N	N	N	N	N	N	N	10.59	11.1
3/8/2016	8:21	H	30	N	N	N	N	N	N	N	N	N	12.08	12.5
3/9/2016	12:30	H	39	N	N	N	N	N	N	N	N	N	11.47	11.91
3/10/2016	8:00	L	34	N	N	N	N	N	N	N	N	N	12.09	13.79
3/15/2016	13:00	M	32	N	N	N	N	N	N	N	N	N	10.87	10.94
3/18/2016	8:00	H	42	N	N	N	N	N	N	N	N	N	8.78	8.49
3/21/2016	8:30	M	35	N	N	N	N	N	N	N	N	N	8.4	8.49
3/23/2016	7:30	L	35	N	N	N	N	N	N	N	N	N	8	8.09
3/25/2016	9:00	L	30	N	N	N	N	N	N	N	N	N	7.9	7.91
3/28/2016	8:00	M	30	N	N	N	N	N	N	N	N	N	7.73	7.75
3/30/2016	8:30	M	32	N	N	N	N	N	N	N	N	N	8.17	8.29

**General Notes (Applicable for Table 2 and Table 3):**

1. Background and riverbank piezometers (G-2A, G-2C, G-3A, G-7B, G-7C, G-8, G-9B, G-10, G-13, G-16, and G-19) were decommissioned in December 2002.
2. The interceptor/collection trench was brought online on October 23, 2003.
3. Flow rate is the pretreatment system discharge flow rate to sewer in gallons per minute (gpm).
4. Seep areas along shoreline were covered by rip-rap as of January 17, 2003. Sheen observations, when observed, are adjacent to seep areas along river or sand flats.
5. Water depth measurements in collection trench manholes T1 and T2 are from the top of the manhole casing in feet (ft). Reference elevations: T1 = 6.99 ft, msl and T2 = 7.09 ft, msl.
6. Days with no measurement are not shown (Table 1) or denoted with NM, indicating no measurement (Table 2).
7. For tide level measurement column, 'L' indicates low tide, 'M' indicates medium tide, and 'H' indicates high tide.
8. T1 and T2 measurements taken after trenches have been pumped out (i.e. at the end of the operator's shift).
9. Flooded - trench manholes inaccessible due to surface flooding from recent rain event

**Seep Observation Note Key:**

- S = Sheen present at seep area  
P = Product present at seep area  
N = No sheen or product present at seep area  
F = Direct discharge (of product) observed from CSO